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ABSTRACT

This document begins by presenting the text of "Technology & U.S. Government Information Policies: Catalysts for New Partnerships," which is the third report of the Task Force on Government Information in Electronic Format. Topics covered by the report include the impact of technology, private sector roles and government responsibilities for distributing information, a framework for policy analysis, a new framework for library services, and the depository library program. A statement of principles for government information in electronic format is appended to the report, which also incorporates the membership's discussions. The remainder of the document includes the introduction to the program (D. Kaye Gapen); background information on the task force and its charge (Nancy Cline); a brief summary of topics covered in membership discussion sessions; a summary of the program (D. Kaye Gapen); the minutes of the business meeting; and 11 appendices. Appended materials include the first two reports of the Task Force on Government Information in Electronic Format; a report on the Association of Research Libraries (ARL) Retrospective Conversion Project; a report from the Task Force on Membership Criteria; an ARL Activities Report; a report on the status of OMS (Office of Management Studies) programs; lists of participants in the meeting, ARL officers and board, committee, and task force members; an ARL membership list; and a financial report. (CGD)

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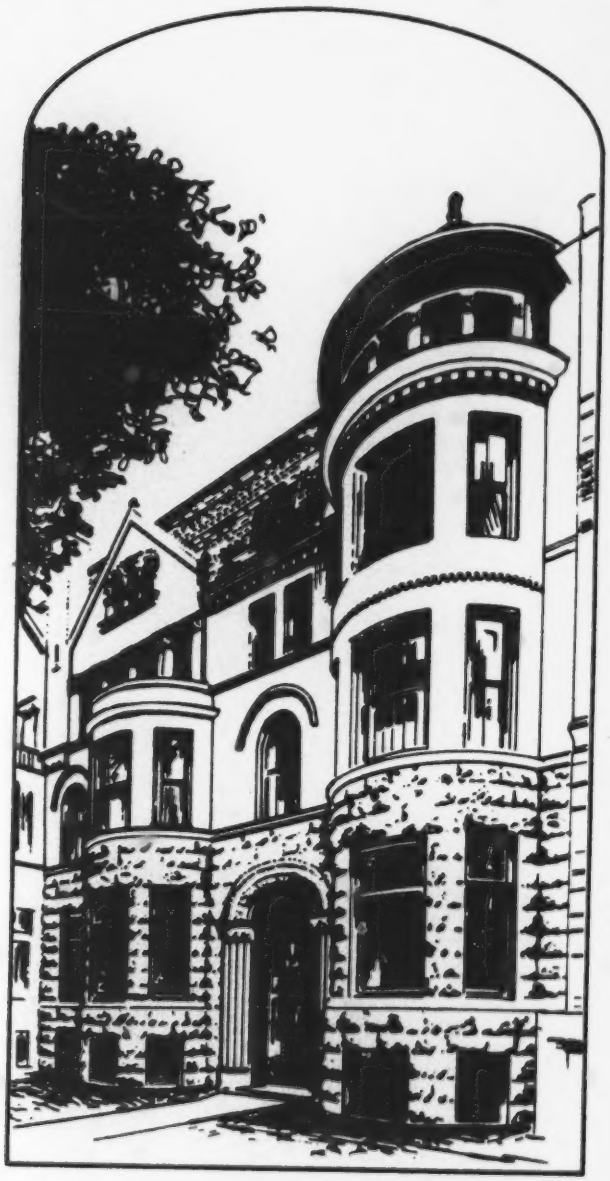
Minutes of the 110th Meeting



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Government Information In Electronic Format

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ASSOCIATION OF RESEARCH LIBRARIES

Minutes of the 110th Meeting

Herbert F. Johnson, Presiding

The 110th Membership Meeting of the Association of Research Libraries was held at the Westin William Penn Hotel in Pittsburgh, Pennsylvania on May 7-8, 1987. After introducing special guests, Mr. Johnson turned the meeting over to Program Coordinator D. Kaye Gapen.

Editor's note. The *Minutes of the 110th Meeting*, unlike previous issues of the *Minutes*, do not include an edited transcript of the entire program session. Instead, brief summaries of the formal portions of the program are included, and the membership's discussions have been incorporated into Report No. 3 of the Task Force on Government Information in Electronic Format, *Technology & U. S. Government Information Policies: Catalysts for New Partnerships*. The task force's earlier reports, which served as background and the basis for discussion at the 110th Meeting, are reprinted as Appendices A and B of these *Minutes*.

TECHNOLOGY & U.S. GOVERNMENT INFORMATION POLICIES:

CATALYSTS FOR NEW PARTNERSHIPS

Report of the
Task Force on Government Information in Electronic Format

D. Kaye Gapen, University of Wisconsin, Chair
Nancy Cline, Pennsylvania State University
Malcolm Getz, Vanderbilt University
Jean Loup, University of Michigan
Barbara von Wahlde, State University of New York at Buffalo

October 1987

Technology & U.S. Government Information Policies: Catalysts for New Partnerships is Report No. 3 of the ARL Task Force on Government Information in Electronic Format. Reports Nos. 1 (October 1986) and 2 (April 1987) were issued as working papers and have been substantially incorporated into this report, along with discussions that took place during the 110th ARL Membership Meeting on *Government Information in Electronic Format.* Reports No. 1 and 2 are reprinted as appendices A & B of these *Minutes*.

Explanatory Note

The body of Government information considered in this report is that which has been collected or created by, or on behalf of, agencies of the U.S. Government using tax dollars. Unless specifically noted, this report DOES NOT address information properly classified for reasons of national security or information protected under the Privacy Act. This report DOES address public government information such as: statistical data gathered from the population, agricultural, or economic Censuses (but not personal or corporate details), financial data from the Commerce or Treasury Departments, Congressional bills and laws, federal regulations, scientific and technical reports issued by agencies such as NASA or the Department of Energy, and so forth.

TECHNOLOGY & U.S. GOVERNMENT INFORMATION POLICIES:

CATALYSTS FOR NEW PARTNERSHIPS

EXECUTIVE SUMMARY

The terms and conditions of public availability of U.S. Government information are very much in question. Technological advances in information storage and retrieval have created circumstances and concerns about access to and dissemination of information in electronic formats. Questions surrounding the issue are entangled with concomitant pressures to reduce Federal spending, shrink the size of government, minimize government competition with private enterprise, and gain a national competitive advantage---both economic and strategic---over foreign nations. Longstanding tensions inherent in the laws, regulations, and practices that collectively make up U.S. Government information policies are exacerbated by these pressures and by the opportunities, challenges, and financing questions posed by information in electronic formats.

Technology, moving faster than policy development, has left U.S. Government information programs resting on uncertain foundations. This report is the result of an effort to develop a framework for understanding---philosophically, functionally, and fiscally---the patterns that exist for government information today, and the shifts in those patterns resulting from the introduction of government information in electronic formats. Two elements of such a framework are presented: a taxonomy to acknowledge distinctions and categorize the characteristics of government information in electronic format, and a model that identifies potential value-added processes for an information system. What is urgently needed in addition are studies on the budgetary mechanisms that support government information creation, delivery, and usage, and the impact of different electronic formats on these mechanisms. The results of such analysis should contribute to a clearer picture of present and prospective public and private financing of government information programs.

The report focuses on the implications for the library, education, and research communities that have heretofore assumed some responsibility for providing government information to the general public. Five issues are addressed: challenges to U.S. Government information policies; the roles of the private sector and Government responsibilities in making information available; models for analysis of the distinctive characteristics of information in electronic formats; a changing framework for library services; and the consequent influence of these four sets of issues on the Depository Library Program, a Congressional program designed to provide equitable public availability of government information.

The Association of Research Libraries (ARL) issues this report to encourage discussion of technology and U.S. Government information policies and a clearer understanding of how the characteristics of electronic formats affect the availability of information. Technology offers opportunities that may be to the advantage of users and both public and private sectors. However, political decisions about meeting Government obligations to provide information should not be contingent on format. The U.S. Government's obligation to be accountable to citizens, and to make available information created or collected with tax dollars, is fulfilled in part through partnership with public and academic libraries. Circumstances warrant a reassessment of library responsibilities in view of new opportunities made feasible by technology. ARL seeks to collaborate with others to develop recommendations for changes in the Depository Library Program. Those interested in working with ARL on this effort are encouraged to contact the ARL office in Washington, D.C.

I. INTRODUCTION

> *It is the nature of the information itself, its significance in fulfilling citizenship information needs and other government responsibilities, that should drive decisions about choice of format, the level of value-added enhancements supplied by the Government, and about how dissemination is to be financed.*

Impact of Technology

Technological developments in the means of producing and disseminating information products have the potential for revolutionizing access to Federally funded information resources. Technology offers opportunities of enhanced access delivering information faster, to more locations, with more effective retrieval capabilities, and in formats that provide users greater flexibility for individual manipulation of the data. However, the full potential of technology is tempered by constrained budgets, controversy about the extent to which the Government SHOULD spend tax dollars to actively disseminate information, and about the possibility that portions of the population could be left unserved if information is available exclusively in electronic formats. For example, vital data, such as detailed Census findings, are increasingly only available on computer tapes. This means these data cannot be used without certain skills and equipment. Instead of just taking a book off the shelf, individuals may need to know complex computer languages and programs, or have access to the assistance of specialists. At the same time that computer technology improves access for some people, access for others is more restricted.

While technology offers opportunities that may be to the advantage of users and both public and private sectors, political decisions about meeting Government obligations to provide information should not be contingent on format. It is the nature of the information itself, its significance in fulfilling citizenship information needs and other government responsibilities, that should drive decisions about choice of format, the level of value-added enhancements supplied by the Government, and about how dissemination is to be financed.

There are fundamental principles inherent in a democracy that must be reflected in government information policies and these principles should not be dismissed because the format of the information changes. Inattention to fundamental principles in support of public availability of Government information allows a vacuum to form wherein decisions are based largely on environmental pressures such as political polemics, budgetary constraints, marketplace economics, and/or administrative convenience. Decisions so made can result in practices of benefit to one segment of our society but to the disadvantage of others.

U.S. Government Information Policies

Federal policies affecting public availability of government information arise from a wide variety of laws and regulations, some of which do not offer clear guidance when addressing issues associated with electronic information. Pervasive and profound economic, political, and technological trends have exacerbated longstanding tensions inherent in these policies. This summary is not comprehensive but is intended to highlight some of the basic elements of the debate.

Historically, there has been Federal support for education and libraries in general. The government of the United States is founded on the premise that there will be an informed electorate, with educated, responsible citizens participating in their governance. This obligation to provide the public with information that ensures government accountability and contributes to an informed citizenry is the foundation of laws within Title 44 of the *U.S. Code* that provides for the Government Printing Office (GPO) Sales Program and the Depository Library Program.

The Depository Library Program, a Congressional program administered by GPO, places collections of U.S. Government publications in nearly 1400 academic, public, and special libraries. The libraries receive the publications at no direct cost in exchange for an agreement to organize and provide service to the material for the general public. The purpose is to assure citizens of no-fee access to information by and about the government in geographically dispersed and politically neutral settings. Electronic government information has not yet been distributed to depository libraries and plans to test the usefulness and economic feasibility of doing so have set off considerable debate about if and how it might be done.

The Freedom of Information Act is based on the presumption that the government and information of the government belong to the people, and the same reasoning underlies the Copyright Law prohibition of copyright of U.S. Government documents. Public access to information produced by government agencies has been a long standing element in support of American public education and the economy; and libraries have played a key role in the delivery of such information to the public. In addition, Federal government agencies, increasingly over the last fifty years, turn to universities and other research organizations to conduct research in support of the missions of those agencies. Contracts and grants have cemented the partnership between the government and research institutions in mutual support of an educated citizenry, an improved economy, and a better society.

On a number of fronts now in a seemingly endless variety of ways, these basic premises and partnerships are now challenged. Three major trends are:

- **Privatization of Government Functions**
  The move towards privatization of public functions, an international trend, is part of an effort to shrink the size of government by assigning government function to the private sector. Privatization of information programs that had previously been an integral part of government agency programs can have undesirable consequences such as: increased prices for services that lead to classes of information-rich and information-poor; elimination of limited-use reports or service aspects of a program not supportable when subjected to commercial, market-driven product design; the possibility of private, self-interested influence over the delivery of public information; and exertion of copyright or copyright-like control over public information.

- **Reduction of Government Agency Budgets**
  Another strategy for shrinking government has been to reduce agency budgets. This has had a profound impact on information programs and services of agencies as well as on the availability of government information in libraries. It has also led to unusual arrangements between federal agencies and commercial information companies to develop jointly agency electronic information systems--arrangements that sometimes lead to undesirable

agreements that give exclusive control of public information to private organizations.

- **Over-zealous Protection of Government Information**
  A penchant for secrecy has led to overclassification of government information, efforts by the Defense and intelligence community to impose controls on unclassified information, and pollution of information sources with an active disinformation campaign intended to mislead all except those with a "need to know."

Some basic areas of contention, where policy is unclear or challenged, include the extent to which tax dollars should fully support the collection and active dissemination of government information and when user fees are acceptable to recover some of the costs of these activities, and how to determine the proper balance between encouraging commercial entrepreneurs to enter the market with government information products while maintaining government responsibilities to provide information services.

II. PRIVATE SECTOR ROLES & GOVERNMENT RESPONSIBILITIES FOR DISTRIBUTING INFORMATION

> *The test is not whether a for-profit firm could sustain an information product if the government did not have a similar product, but rather whether there is a legitimate governmental role and public need in creating and distributing particular information products.*

Government information, in a variety of formats, is made available to the public by a diverse assortment of providers including the Government itself (e.g. GPO, NTIS, and/or direct from source agencies including Congress), commercial and non-profit information companies, and libraries. This variety of sources of access to the same information is in the public interest since it ensures that users, both within and outside of government, have available a sufficiently varied array of sources to support judgments on data credibility and assessment of government accountability. However, questions have been raised about Government duplication of commercially available information products. The following section addresses the distinction between government responsibilities and private sector roles in how government information is disseminated regardless of format.

Private Sector Roles

The private sector, both for-profit and non-profit, plays an active and important role in distributing government information in print as well as in electronic form. Entrepreneurs can invent new information products that meet particular market demands. New products can improve the well-being of consumers by identifying and filling consumer demands more effectively or by offering lower costs. As electronic systems grow in importance, private entrepreneurs may be expected to develop new products that take advantage of the new opportunities.

The private sector has a number of advantages as vendors of information products. The spirit of entrepreneurship allows a firm to create a product and try it in the market place. The ability to take commercial risks with venture capital funding means that an entrepreneur may be able to develop products quickly and follow an instinctive sense of consumer demand without unwieldy administrative consultation and without putting it to a political test within an electoral body. Existing firms are under continual market pressure to hold down costs, to meet consumer demands, and to innovate because they are aware that other entrepreneurs stand ready to enter a market should existing firms let costs rise, product quality deteriorate, or an opportunity to innovate pass. As a consequence, entrepreneurs are effective institutions for distributing government information as they are for managing many other resources in our society.

The private sector, however, has some disadvantages. If private markets were a sufficient vehicle for all our social decisions, we would have no need for government. Private markets have proved to be deficient in supplying police, education, roads, defense, and courts. Indeed, the very concept of private markets depends on the definition and enforcement of property rights by governmental institutions. Moreover, unregulated private markets may yield results that are suspect with respect to pollution, congestion, and resources of indefinite ownership. Finally, the operation of markets may yield outcomes of particular distributions of wealth, power, and status that may be decided, through political institutions, to be unfair. For these reasons, the progress of our society

depends on the effective, fair, and innovative development of government institutions, just as it depends on an efficient and innovative private sector.

Concerns about private sector development or operation of Government information systems include the uncertainty of corporate stability or continuity of service, the imposition of proprietary control over the content or use of public domain information, and the imposition of high, profit-motivated fees for access to information created or collected with public funds.

Government Responsibilities

What is the appropriate scope for government action in providing information and where should we look for effective private action? For certain classes of information, full and effective government participation in the provision of information products is essential. For other classes, government participation should be limited or the information collection activity eliminated.

In particular, where broad citizen access to information is essential to the operation of our democratic institutions, effective government involvement in the production and distribution of information products is important. The status of bills before Congress, information about tax collections, budgets, and expenditures, and description of government policies and programs constitute a class of information essential to our citizenship roles. We want voters to be informed, and so we want to continue to subsidize, via tax funds, general access to this information. Potential candidates for public office need to have sufficient and convenient access to information about governmental programs and practices to raise substantive discussions about what government should be doing.

Indeed, the level of information to which legislators themselves have ready access depends on an active and subsidized program of government publication. The effectiveness of electoral institutions in managing a complex governmental enterprise, then, depends critically on ready and general availability of documents that describe governmental actions, programs, and policies.

For this class of information, government tax-financed creation and distribution of products is essential. Our democratic institutions will not engender trust if information about their activities is not broadly distributed and routinely and conveniently available. As electronic formats become desirable means for citizen access, then, the government, and in particular, the Congress, should play an active role in supporting appropriate, new electronic information products and delivery systems.

There may be other classes of information where the pursuit of a particular governmental policy militates subsidy of distribution of appropriate information. For example, public health programs to limit the spread of infectious diseases depend to a considerable degree on subsidized information flows. Programs to help the poor often must be advertised to be effective. Government efforts to enhance the pace of research and scientific developments may also require an active program of underwriting the dissemination of research reports and scientific information.

In other cases, the government itself requires collection and use of particular kinds of information to pursue its ends. Effective development of monetary and fiscal policies depends on an effective program of gathering and distributing economic information. The regulation of the monetary supply, of international trade, and of public utilities requires that information be gathered

and shared publicly. The Census of Population is needed as a basis by which to allocate Congressional seats.

In these cases, government publication and distribution of information products is valuable and appropriate. Of course, if the government failed to publish such products, private firms would find more opportunities to create products. However, our society will be the poorer if it does not have tax subsidies for certain kinds of information products. The test, then, is not whether a for-profit firm could sustain an information product if the government did not have a similar product, but rather whether there is a legitimate governmental role and public need in creating and distributing particular information products. The value of tax supported publication has long been recognized for print products. The same logic militates the tax support of particular electronic publications.

The federal deficit rightfully highlights the need for reassessment of federal spending patterns. Government activities associated with the public availability of government information have costs associated with them and should be subject to the same scrutiny applied to other parts of agency budgets. Essential to undertaking an effective, long-term view of agency information programs is identification of the purposes that the information content serves, within and outside government, and a judgment of its relevance to fulfilling government responsibility for making information available.

The government may find its purposes well met for certain information sets that support a particular market, e.g., crop reports, by gathering the information with tax support but allowing consumers to support distribution through fees. How the Depository Library Program might be affected by such distribution is a question that should be addressed in a review of the program. See pages 21-22.

In some instances, there is no compelling reason for government involvement. When the government has no particular advantage, or need, to gather a given set of information, market forces should lead to an appropriate array of private information products.

Defining Complementary Partnerships

There are compelling reasons to delineate complementary roles for the Government, libraries, commercial and non-profit information organizations in making government information available to the public.

All libraries designated as part of the Depository Library Program (a mix of publicly and privately supported organizations), and many other libraries as well, have and will continue to play key roles in fulfilling Government information responsibilities by providing no-fee access for the general public to government documents. New electronic formats for the information does not change library commitment to that role. What is key is that Government and libraries collaborate on developing a common understanding of respective responsibilities to the public.

All non-profit institutions may have special roles to play in areas such as health, education, and welfare where non-profit institutions have long been important. Government may encourage publication by non-profit agencies of information products based on government data sources. Of course, the mix of for-profit and non-profit activities will continue to evolve in response to changing technical and market opportunities.

The government can support the development and distribution of many information products by contracting for them in various ways. In such cases contracting ought to be conducted in a manner to encourage competition and caution should be exercised concerning what, if any, restrictions a contractor may exert over content or public use of the information product. What is needed is a clearer picture of how government responsibilities for public availability of government information in electronic formats might be fulfilled in partnership with the private sector without loss of the characteristics that make this information distinctive: the absence of restrictions on use including, for basic government information, absence of a fee.

The private sector has already contributed to the development of a diverse array of information systems that form critical supports for all aspects of our democratic society. If common goals can be established the private sector with its acknowledged strengths could also contribute in a significant way to fulfilling Government responsibilities to make information available to the public. What is key is identification of mutual private sector - Government goals that support partnerships for the delivery of public information unencumbered by copyright or other use restrictions. For that information where broad citizen access is essential to the operation of our democratic institutions, such partnerships must function so that the costs do not force the imposition of user fees by the Government or libraries.

III. FRAMEWORK FOR POLICY ANALYSIS

> *HOW government information in electronic format is disseminated will have an impact on existing partnerships between the government and for-profit and non-profit institutions. The partnerships may, in fact almost certainly will, continue in some capacity. However, the responsibilities, especially those concerning which partner incurs what costs, are very much in question.*

The characteristics of government information in electronic formats demand a new framework for analyzing and defining how this information should be made available to the public. Two elements of such a framework are presented: a taxonomy to categorize the characteristics of government information in electronic format, and a model that identifies potential value-added processes for an information system. In addition, hypothetical scenarios illustrate the need to consider four key questions as decisions are made about approaches to distributing electronic information.

Taxonomy of Government Information in Electronic Format

Identification of a taxonomy or classification of government electronic information systems or products would contribute to policy analysis. For example, electronic information products or systems might be categorized on the basis of the following four dimensions.

1. **Volatility.** Some electronic systems are highly volatile--dynamic and highly time sensitive; others are static.
2. **Public Policy Relevance.** Some systems convey information that is highly relevant to consideration of important public policies and thus are of broad public significance; others have information of little policy relevance and are of interest only to a specialized audience.
3. **Value to Research.** Some systems convey information that is highly significant for research; others convey information of limited research value.
4. **State of System Development.** Some systems could be compared to wholesale products, requiring significant hardware and value-added software support before end-users may make use of it; others are more like retail products, fully packaged and presented for end-users.

These four dimensions are described in terms of two extreme points on a spectrum. In reality, consideration of the characteristics of a specific system following such a classification will fall anywhere between the two extremes. The taxonomy is not intended as an absolute measure for policy making but rather is put forward to illustrate that not all government information in electronic format is the same and to identify some obvious categories of systems that will encourage policy discussions to move from generalities to specifics.

Each niche of such a taxonomy may suggest different ways to address policy issues associated with dissemination of the information. The taxonomy could be subdivided further into files that are textual as opposed to other kinds of information as well as by the anticipated extent of public audience for the information, should these kinds of characteristics, or others, need to be considered in making policy decisions.

Taxonomy of Government Information Systems

STATE OF SYSTEM DEVELOPMENT		VOLATILITY: Dynamic		VOLATILITY: Static		RELEVANCE TO PUBLIC POLICY
	Retail *	Combination 1 Dynamic High relevance to public policy High value for research System ready for end-user ("retail product")	Combination 2 Dynamic High relevance to public policy Limited value for research System ready for end-user ("retail product")	Combination 3 Static High relevance to public policy High value for research System ready for end-user ("retail product")	Combination 4 Static High relevance to public policy Limited value for research System ready for end-user ("retail product")	High
	Retail *	Combination 5 Dynamic Little relevance to public policy High value for research System ready for end-user ("retail product")	Combination 6 Dynamic Little relevance to public policy Limited value for research System ready for end-user ("retail product")	Combination 7 Static Little relevance to public policy High value for research System ready for end-user ("retail product")	Combination 8 Static Little relevance to public policy Limited value for research System ready for end-user ("retail product")	Little
	Wholesale *	Combination 9 Dynamic High relevance to public policy High value for research System requires support ("wholesale product")	Combination 10 Dynamic High relevance to public policy Limited value for research System requires support ("wholesale product")	Combination 11 Static High relevance to public policy High value for research System requires support ("wholesale product")	Combination 12 Static High relevance to public policy Limited value for research System requires support ("wholesale product")	High
	Wholesale *	Combination 13 Dynamic Little relevance to public policy High value for research System requires support ("wholesale product")	Combination 14 Dynamic Little relevance to public policy Limited value for research System requires support ("wholesale product")	Combination 15 Static Little relevance to public policy High value for research System requires support ("wholesale product")	Combination 16 Static Little relevance to public policy Limited value for research System requires support ("wholesale product")	Little
		High	Limited	High	Limited	

VALUE FOR RESEARCH

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*Intended as analogy, not as marketing term.

Scenarios for Dissemination

HOW government information in electronic format is disseminated will have an impact on existing partnerships between the government and for-profit and non-profit institutions. The partnerships may, in fact almost certainly will, continue in some capacity. However, the responsibilities, especially those concerning which partner incurs what costs, are very much in question. Policy development for dissemination of government information in electronic format is in great flux and discussions with representatives of various government agencies suggest that there may be quite a number of approaches. Even so, it is important to anticipate the impact of different courses of action. Hypothetical scenarios are described on pages 11-12 to illustrate, if not all of the possible options, at least some of the general approaches that may be taken.

By comparing one scenario to another it becomes clear how government information could be provided with varying levels of "user accessibility mechanisms." While an awkward phrase, the notion of user accessibility mechanisms is significant to any definition of the government's responsibilities for ensuring public availability of government information in electronic format. For example, the government agency may produce electronic files with no user accessibility mechanisms, expecting that if those mechanisms are needed, they will be added and paid for by someone else. This is the situation in Scenario One (Limited Government Role).

At the other extreme, a centralized government agency provides full support for an electronic information product that an inexperienced end user can master quickly--Scenario Four (GPO Provides Full Support). Close to this scenario is the Depository Library Program as we know it today, in which government agencies create retail information products that are centrally assembled, cataloged, and shipped to depository libraries. The depository library is responsible for space, collection management, and services that make the government information available. The depository library may even purchase expensive supplementary indexes, but the government agency produces an information product which still arrives more or less user ready.

There is, of course, a wide range between these two extremes. It is a range that can have even more complex approaches than those illustrated here--with complexities which on the surface make it difficult to determine costs and predict the allocation of costs among government agencies, libraries, and users.

SCENARIOS FOR DISSEMINATION OF GOVERNMENT INFORMATION IN ELECTRONIC FORMAT

SCENE ONE: Limited Government Role

Government offers data on tape without charge for use by depository libraries. If accepted on deposit, libraries are responsible for mounting datafiles on local systems, providing access to the data to users, training staff and users in methods for access to data.

Other intermediaries may also acquire data and process it for resale and use by libraries and others. Many intermediaries may compete in distributing the information.

Users are expected to be sophisticated in electronic means of communication. They may have to use programming languages, e.g., Cobol or Pascal, in order to extract needed information or be willing to pay for such service.

Examples: Census of Housing Tract and Block level data
LandSat geographical information

SCENE TWO: Government Agency Manages Dissemination

Agency puts data in a form usable by some libraries and by intermediaries. Each agency acts on its own. Agency may contract with an intermediary for the provision of on-line access, but agency sets standards and provides some financial support for data preparation.

Library may pay hourly usage fees to agency or intermediary for use. Data resides on agency or intermediary computer; use requires telecommunications.

Users may pay fees to the library for the services of the librarian and for telecommunications. Users may have to learn a software package like SAS or Lotus 1-2-3 to use numeric information effectively.

Example: Library of Congress Tape Distribution Service

SCENE THREE: Government Printing Office Acts as Publisher

The Public Printer requires agencies to provide GPO with the raw data, as if in manuscript form. GPO puts the information in a standard format, provides public domain software tools for access or stipulates a generic software tool as user interface. The Public Printer disseminates the electronic information through the Depository Library Program.

GPO may contract with intermediaries for service much as private printers manufacture print products. However, the Public Printer remains responsible for price and service.

The Library receives an electronic information product that requires a local system to support it, but the support requirements are standardized and therefore useful for a variety of information products, for example, a personal computer with a CD-ROM drive and a common software product.

Training requirements for librarians are relatively modest.
Users may pay a small fee for use of a personal computer and training modes of access but learn to use a common interface with about as much effort as required to use the *Monthly Catalog*.

Example: GPO distributes a CD-ROM version of the *Monthly Catalog* free to depository libraries

SCENE FOUR: Government Printing Office Provides Full Support

GPO provides full support for an electronic information product that an inexperienced end user can master quickly. If product is delivered via telecommunication lines, costs are paid by the Government.

The library provides space and manages services for the collection of electronic information products.

Users may use the information without charge even for computer use.

Examples: *Congressional Record* CD-Rom
Current status of bills before Congress On-line
Federal Register CD-Rom
Patent and Trademark Office *CASSIS* Index On-line

SCENE FIVE: Data to the Highest Bidder

Government Agency auctions off the right to its data to the highest bidder (via contract, license, or lease), provides exclusive rights to dissemination for an agreement by winner of auction to create a product that is available to the public. The Agency uses the proceeds to further its vital public mission, say underwriting grants for research in medicine.

The intermediary who wins the auction develops retail products and markets them on a for-profit basis.

The Library must pay the retail price for the electronic information product. It can define the terms of public access to the product much as for any other item in its collection. The number of libraries who choose to acquire the data may be limited by the expense.

Users may face fees per unit of use of the electronic product, fees that reflect the cost of the license to the data as well as rates for telecommunications, local computer time, and librarian services.

Example: The Commerce Department lets a contract for exclusive rights to disseminate reports collected by the National Technical Information Service.

Key Considerations

Four questions should be considered by government agencies, or libraries acting as intermediaries, as decisions are made about how to provide the public with government information in electronic formats. Responses to these questions, when applied to a particular information system, may suggest how access to that system should be paid for--for example, fully tax supported or partially tax supported with intermediaries and/or users paying part of the costs.

1. What is the significance of the information in the system for the development, pursuit, or assessment of public policy positions?

2. What are the "user accessibility mechanisms" or value-added processes needed and/or added by the creator of the information, the mediator of the information, and the user of the information?

3. What are the relative costs of adding specific value-added characteristics at any point in the information chain (creation, mediation, use) in order to assure equitable public availability of government information? And how will the costs of providing these value-added processes be distributed among federal and state agencies as well as private organizations?

4. If a shift in costs (among government, libraries, and users) is anticipated when this government information is disseminated in an alternate format, how will this affect resource sharing among libraries and the ability of the depository library system to support no-fee public access?

A Value-added Model

A search for a means to analyze such complex and shifting relationships and responsibilities identified a model in a book by Robert S. Taylor titled *Value-Added Processes in Information Systems* (Norwood, N.J., Ablex Publishing Corp., c1986).

Taylor views an information system as a totality from originator to end-user. His definitions and conceptualizations, particularly the transformation of a "wholesale" information product through value-added processes into one that is "retail," is highly applicable. Taylor defines "value-added" activities as those procedures that strengthen or render more accessible messages in an information system. His definition of an information system includes librarians in their function of mediating information to the public, as well as others such as analysts, evaluators, and synthesizers who perform similar functions. In viewing the transformation of the "wholesale" product, in this case raw government data which is unusable without mediation or intervention, into a "retail" information source, the model illustrates how responsibilities for adding value may shift among originators, mediators, and users. It also suggests the kinds of changes needed in total information systems as electronic information is substituted for print sources.

Taylor's model, based on 23 elements, allows an assessment of the presence and quality of values added at each stage of the information process, that is, by the originating source, the library or other mediating service, and the user. It stresses end-user needs and the structure of the information environment as major elements in the evolution and evaluation of information systems. The fullest application of the model implies the creation of problem-clarifying systems, significantly different from question-answering systems.

Together, the value-added model described by Taylor and the taxonomy of government information in electronic forms, provide mechanisms to address the four key considerations in planning for public availability of any particular information system; they may also lead to general conclusions about how certain categories of government information should be disseminated.

IV. NEW FRAMEWORK FOR LIBRARY SERVICES

The evolution of a bimodal library environment that encompasses both print and electronic formats will also lead to a reexamination of resource sharing among libraries. Ownership of information resources becomes less significant than access to information and leads to the development of new access and delivery systems.

Government information---its creation and dissemination---is a microcosm of the elements and layers of a new paradigm for libraries. The prospect of GPO providing government information in electronic format to depository libraries accelerates the need for libraries to address the shifting paradigm and turn concepts into very real questions of library and public policy.

Libraries face an exciting view of the future in which the present paradigm or framework of library thought is changing in response to a new information reality. "Electronic information" and "electronic communication channels" both play strong roles in shaping the new context. They require of libraries a new paradigm not because they are "new" but because they have some essential characteristics with which we must deal that are different from anything we have dealt with up to this point. Most library collection resources (paper, microformat, tapes, sound recordings, maps, AV materials, etc.) exist in "handleable" form and are delivered physically. Electronic information, however, is created in digital form, is stored digitally on a variety of computer disc devices, and can be delivered digitally over a variety of telecommunications/telephonic networks.

The environment for providing users with access to electronic information resources is significantly different from a traditional, print-based library. Diversity, rather than uniformity, and varying information access skills, characterize gateways to electronic information. There are few parallels in print formats to the complexity of technology and mediation between user and data that characterizes the emerging electronic environment. A computer tape or CD-ROM containing data is useless technology without the interfaces that enable the information to be retrieved. The degree of mediation required varies, but is most substantial in instances when the originator of electronic information does not provide the needed interface at point of creation.

There is increasing need, because most users lack all the necessary computer skills and require an intermediary, for librarians in archives or libraries housing machine-readable data to add information and therefore value to these resources in order to make them more readily usable by a wider audience. In a sense such librarians are information technologists working with a variety of print and non-print formats, electronic databases, and other sources and adding their skills in retrieving, reformatting, interpreting, and summarizing data.

The evolution of a bimodal library environment that encompasses both print and electronic formats will also lead to a reexamination of resource sharing among libraries. Ownership of information resources becomes less significant than access to information and leads to the development of new access and delivery systems.

Because of the breadth and depth of their collections, research libraries tend to serve as resource collections for other libraries. As more multitype libraries have used OCLC or RLIN for retrospective and current cataloging, the presence of their holdings in these networks has spread

interlibrary loan requests among a larger number of libraries, although the general pattern of research libraries as net lenders seems to be continuing. Evolving patterns associated with electronic information will have a significant impact on the role of research libraries in the provision of national information services. Catalogs of research libraries could serve as regional or national gateways that contain references to information in electronic as well as printed formats whether held locally or elsewhere. This could lead in turn to an increased emphasis on linkages with state-wide and regional systems through advanced telecommunications networks. It is unlikely however, since the use of electronic sources requires larger capital and personnel investments, that sharing will necessarily lead to a reduction of current expenditures for any individual library.

V. THE DEPOSITORY LIBRARY PROGRAM

> *The prospect of the delivery of government information in electronic form through the depository program raises important questions about whose budget will be affected as patterns change: the government agency's, the library's, the user's? . . . It is critical that the Government Printing Office initiate distribution of some electronic products to depository libraries immediately in order that participants (within and outside of Government) gain experience with the practical and financial consequences. This experience will contribute information essential for Government and library planning for the future of the program.*

Within the Depository Library System of nearly 1400 libraries, a slightly different pattern of resource sharing exists. The general make-up of the system provides for not more than two Regional Depository Libraries in each state that assume responsibility to permanently maintain a comprehensive collection of government documents. (There are presently 53 regional libraries in the system.) Regional collections exist in public and private institutions in a variety of academic, state agency, and public libraries. In addition, libraries designated as Selective Depository Libraries may elect to be comprehensive and may or may not maintain the collection permanently.

Strong depository collections, including Regional Depositories, reside in a wide variety of types of libraries with varying degrees of institutional resources and different institutional missions. As resource sharing becomes more expensive, the ability and willingness of some Regionals to serve as resource centers is in question. As the pattern of resource sharing among different kinds of depository libraries changes with the introduction of electronic formats, it is possible that participating libraries will define new scopes for their depository collections and offer a more focused but well defined array of services for the collection.

The particular kind of electronic format chosen to make government information available to depositories will probably largely determine the willingness of depository libraries to add it to their collection or not. Some formats would involve incurring large fixed costs at the library, with significant local computer systems and electronic storage devices. Such investments in local systems may allow users to find information at very small added cost per inquiry. For example, a library might acquire data on tape and mount the files on magnetic disk drives attached to mainframe computers with powerful search software available to users. Other electronic formats may involve little local investment but require significant incremental cost per inquiry. For example, a datafile may reside on a remote computer with access charges per unit of search levied to recover the cost of the computer time as well as the telecommunications charges.

Patterns of access to government information in electronic formats are likely to parallel patterns already emerging in regard to other electronic information. That is, depositories located in smaller libraries or institutions are more likely to choose the low fixed cost and high incremental cost per search strategy for most electronic information. Depositories located in larger libraries are more likely to choose the high fixed cost and low incremental cost strategy at least

for very commonly used datafiles. These larger libraries may be in a position to serve other depository libraries with cost recovery from some source.

What is important to recognize in planning is that different depository libraries can take advantage of different kinds of electronic products to different degrees. It may be to the advantage of the Depository Library Program if, for some electronic materials, a few libraries serve as intermediaries for all other depositories as well as for other users of information. Moreover, strengthening existing and defining new relationships among depository libraries may be desirable.

How much it would cost a library to expand its role in the Depository Library Program and how some of those costs might be recovered are key considerations. In addition to hardware expenses, the value added by any depository library, be it basic or sophisticated, could be significant.

Examination of Budget Mechanisms

Access to government information through the depository program (and in addition to it) involves costs. The GOVERNMENT bears a significant part of the costs by publishing and distributing material to the depository libraries. The LIBRARY bears a significant part of the cost in the provision of space, professional and clerical staff assistance, the provision of bibliographic access, reference mediation, the continuing maintenance of the collection, and in an increasing number of instances, the provision of the equipment necessary to read or use the documents. USERS bear a significant part of the cost as well, in particular, the time and travel associated with locating and using the materials (as well as through the tax dollar).

Over the history of the depository program, each component involved has responded to the costs involved by building the budgets required to maintain the chain of creation, distribution, integrated bibliographic access, physical accessibility, and use. However, even before the impact of technology began to be so strongly felt, the pressures of budget constraints had begun to affect the historical patterns. The impact of technology and the creation of a whole new paradigm of library services has accelerated the rate of changes and significant adjustments are now being made within library budgets.

In regard to electronic government information, then, there are at least two tensions which must continue to be addressed for resolution: (1) the tension between the goal of increased efficiency (for the government agency, the library, and the user) and the maintenance of equitable access to public information; and (2) the tension involved in the cost shifts in the "creation, distribution, and accessibility chain" as technology has an impact on each component of the chain.

It is clearly important that all of the involved parties ask the correct array of cost questions in order to produce the accurate information upon which will be based a host of future decisions about information products and services.

A college or university library must also take note of relationships its parent institution may be in the process of establishing with business, agribusiness, and other parts of the private sector including programs in support of technology transfer. The growth of university-related research parks is one of the best examples of the mutual benefit which can accrue to higher education and the private sector when cooperation occurs. Academic libraries, by institution mandate and within institution wide policy controls, are more and more closely involved in the support of these mutual

endeavors. The fact that the costs and benefits for the private sector and higher education are not mutually exclusive adds yet another layer of complexity to the policy and economic context within which academic libraries provide information and service. Certainly, that layer of complexity is present in the provision of government information in electronic form resulting in another important element to be considered.

The prospect of the delivery of government information in electronic form through the depository program raises important questions about whose budget will be affected as patterns change: the government agency's, the library's, the user's? Will the costs of the depository program which includes electronic information closely parallel those experienced for print formats? Will the information have relatively the same value as the material in print to the government, to libraries, and to users so that the present array of support for the print program can be extended to support the electronic information?

The answers to such questions depend on the details of the design of a particular file of electronic information and on the policies adopted for implementation. For example, the Government Printing Office or a federal agency might choose to make a database available on-line at zero or nominal charge to the library or user. The depository library might be responsible for providing documentation on the nature of the database, a guide for its use, the telecommunications associated with using the database, and the electronic device used for access.

In another example, GPO might make available to depository libraries a database on magnetic tape at zero or nominal charge. The library might be responsible for mounting the tape on a local computer, providing suitable access software, and providing the computer cycles for gaining access to the database. A user might be responsible for the cost of printing or downloading to other private media.

In a third example, a federal agency may support digitizing equipment, the agency and the library pay for the provision of the information to be digitized, and the library and the user pay for the equipment required to read the electronic information.

These three examples make clear that the nature of costs to the government, the library, and the user will differ markedly for different electronic information products. What is needed is an examination of Federal agency and library budget mechanisms that have supported the statutory responsibilities of the source agency, the GPO, and depository libraries. Questions which need to be asked and answered include:

-- How do we measure current agency costs for the information file? What are the components of the costs for the agency?

-- How do we measure current library costs for the further distribution and storage of the government information? What are the components of costs for the library?

-- Would the new format result in increased use or new users?

-- Do cost savings occur for either the agency or the library in the creation, distribution, and accessibility chain for electronic information?

-- Will costs shift from the agency to the library, or vice versa?

-- Will costs increase for both the agency and the library, but the public benefit of information in a new format balance the cost increase?

-- Can we anticipate cost substitutions within an agency or library budget so that present budgets can be reallocated instead of supplemented?

-- Can we anticipate additional costs and, if they exist, are they short-term over the implementation of the new information format, or are they long-term over the life of the information?

-- What is the relationship of cost to the variety of possible formats? For example, how graphic images are electronically captured and transmitted (in particular, graphic images that are part of a text file) will have a significant impact on the cost of effective delivery.

-- Which telecommunication networks and/or bibliographic utilities can be effective for distribution of the electronic government information and what are the anticipated costs associated with present and future use?

Examination of these various cost issues would occur for at least three stages: (1) set-up costs; (2) recurring/continuing costs; and (3) life cycle costs. Components will include costs related to equipment needs (including initial costs, maintenance, amortization and replacement, and so forth); telecommunications requirements; the added or different use of computing already in place in the library or the parent body; any necessary added space; physical plant renovation for electrical wiring or computer cabling; staff involvement in the integration of the new formats into collection development, bibliographic access, information mediation, library instruction, and collection preservation functions; the costs inherent in bringing together text databases, numerical databases, graphics databases, and bibliographic control databases in an expanded form of information delivery; the cost of new and more powerful information manipulation and delivery possibilities -- i.e., the expanded user patterns which can result from electronic formats; and the relationship of all of these elements to the whole context of the information taxonomy and the practical and policy concerns implicit therein.

The Need to Include Electronic Formats in the Depository Library Program

Depository libraries need government information in electronic format to fulfill their responsibilities to the public; information should not be excluded from GPO distribution to depositories on the basis of format. Increasingly, more and more government information that was once available in paper reports is now available only in electronic formats. At the same time, more depository users prefer government information in electronic formats in order to retrieve it more effectively, incorporate it directly (without re-keying) into personal or project files, and to be able to derive customized presentation or analysis of data.

Federal agencies should make their information products available to the public through the Depository Library Program, including those in electronic formats. Information of an administrative nature with no public interest or educational value, or that properly classified for reasons of national security, is and should continue to be, excluded from the program.

It is critical that the Government Printing Office initiate distribution of some electronic products to depository libraries immediately in order that participants (within and outside of Government) gain experience with the practical and financial consequences. This experience will contribute information essential for Government and library planning for the future of the program.

Agencies with electronic files should be encouraged to provide information products with convenient interfaces to simplify access by end users. Examples are the *Monthly Catalog of U.S. Government Publications* and the *Code of Federal Regulations* on CD-Rom or the status of bills and an index to legislation on-line. However, the absence of such agency developed interfaces should not exempt the product from the program since depository libraries may elect to purchase or develop software in order to make such products available as part of their depository responsibilities.

The Need to Review and Assess the Program

The inclusion of government information in electronic formats in the Depository Library Program will have a profound and pervasive influence. Congress, the Government Printing Office, and the library community should review the Depository Library Program to assess the impact of electronic products on the program. Issues that should be addressed include: the opportunities now available for restructuring the program to take advantage of electronic information delivery, redefinitions of service responsibilities among all participants, geographic distribution of service points, and, the burden of shared costs among Government agencies, libraries, and users. The reviews should also consider the effectiveness of communication channels among all participants to encourage consultation in the development and implementation by the U.S. Government of public electronic information programs. The reviews should be conducted concurrently with GPO distribution of some electronic products in the program as experience gained in the operation of the program will contribute to an informed and realistic review.

What must be preserved is a program that provides equitable, no-fee access to basic public information for all citizens.

Possible Changes in the Depository Library Program

The findings of the ARL Task Force on Government Information in Electronic Format prompted speculation about how the Depository Library Program might change as a result of these trends. The following description is not presented as a final conclusion but as a suggestion that might stimulate discussion and further analysis within the depository library community and those communities they serve.

Roles for depository library participants may change in some or all of the following ways. First, since requirements for equipment and staff to support a full-service electronic depository collection are considerable, the program may be well served by having just a few libraries support multistate or national public information needs as part of the program. From this there may develop varying levels of responsibility for providing services for electronic products. Some depository libraries may not be able to afford the equipment and/or staff support to provide services for certain kinds of government information in electronic form. Location, however, becomes less consequential as electronic information can be relayed from library to library electronically, recalling however, that the economics of resource sharing may be different.

This may lead to a redefinition of depository library service responsibilities in which government documents and gateways to government information will be focused, along the following lines:

BASIC Services: This level of depository library would serve as an information center in which there would exist a small government document collection and a computerized gateway to electronic government information located elsewhere. The service might be focused more on self-help and on-demand levels. There would be a high cost per transaction but a small fixed cost.

INTERMEDIATE Services: This level of depository library would maintain a larger government document collection and some electronic information and gateways to other electronic information located elsewhere. This library might devise products which would work well through the gateways and might invest in developing value-added approaches to the government information. The service would include more mediation and synthesis than the Basic level.

FULL Services: This level of depository library would contain research level government documents and a full range of electronic information and the most sophisticated gateways to other electronic information. The depository collection would be supplemented by related, locally available databases. The level of service would include the highest levels of value-added characteristics. There would be developed software packages and other approaches which would change wholesale government information into retail government information. The cost per transaction would be low and the fixed cost high.

A second kind of change that might take place within the program involves depository library cost recovery for performing certain functions. Depending on the nature of the information itself and the extent of local investment, depository libraries may begin to recover some or all of the costs associated with adding values to electronic government files.

There remains the commitment to the role that libraries have always played: provider of no-fee access for the general public to government documents. What is highlighted by the prominence of electronic information is that not all government information is the same and that the level of user accessibility provided for electronic products varies tremendously depending on the system characteristics provided by the government or added to it by libraries or other intermediaries. Government information defined as essential for fulfilling the citizenship information needs of the public and for fulfilling government responsibilities should be distributed to depository libraries in a manner that allows libraries to make it available at no-fee.

What may result from such a clarification or refocusing is another category of information--that of considerable importance to a narrow segment of society, important enough to justify agency efforts to collect or generate the file, but which is too costly to justify full tax subsidized value-added enhancements. This kind of information might be distributed to depository libraries on terms that allow some cost recovery mechanism from a source outside the library--the user, a government agency, or perhaps a consortium of users. Therefore this second possible change for the program, that depository libraries may begin to recover all or some of the costs associated with adding value to some electronic government files, is dependent upon the nature of the information itself and the extent of local investment made in order to compensate for costs not incurred by the Government.

For example, some form of reimbursement may be made to support public use of a "deposited" government file that has been significantly enhanced by locally developed software. The point is: if Depository Library Program policies define that the library is to add values to enhance an electronic file, that policy may also define the level of value to be added, who is to be served, and how and who is to pay to support the system.

VI. Conclusion

The Association of Research Libraries issues this report to encourage discussion of technology and U.S. Government information policies and a clearer understanding of how the characteristics of electronic formats affect the availability of information. Technology offers opportunities that may be to the advantage of users and both public and private sectors. However political decisions about meeting Government obligations to provide information should not be contingent on format.

The U.S. Government's obligation to be accountable to citizens, and to make available information created or collected with tax dollars, is fulfilled in part through partnership with public and academic libraries. Circumstances warrant a reassessment of library responsibilities with a view to new opportunities made feasible by technology. This reassessment can only effectively be made when GPO initiates distribution of some electronic products to depository libraries. ARL continues to endorse the inclusion of electronic products in the Depository Library Program and urges GPO action toward this end. ARL seeks to collaborate with others to develop recommendations for changes in the Depository Library Program and encourages those interested in working on this effort to contact the office in Washington, D.C.

APPENDIX

GOVERNMENT INFORMATION IN ELECTRONIC FORMAT

A STATEMENT OF PRINCIPLES

NOTE: The following statement, prepared by the ARL Task Force on Government Information in Electronic Format, was submitted to the membership of ARL in October 1987 for review and will not be acted upon until at least May 1988. It is therefore NOT an official ARL statement but is included in this report to encourage comments from other interested individuals and organizations. Comments should be directed to the ARL Office in Washington, D.C.

In 1985, ARL adopted a "Statement on Access to Information" affirming the Association's commitment to the principle that unrestricted access to and dissemination of ideas are fundamental to a democratic society. Recognizing that legitimate goals of national security and economic competition exist side-by-side with the principle of unrestricted access, ARL concluded that the latter must take precedence unless a clear and public case can be made for restricting access in a specific instance or to a clearly defined body of information.

Increased application of new technological developments (large computer databases with interactive online capabilities, diskettes of data for use in personal computer, laser optical disks, etc.) for the storage and retrieval of U.S. Government information has challenged traditional practices of providing the public with access to this information. The ARL Task Force on Government Information in Electronic Format has reviewed public policy and traditional practices that support citizen availability of U.S. Government information in light of the characteristics of electronic formats. The result is a recommendation that ARL develop a statement of principles that specifically address the public availability of U.S Government information in electronic format. Identification of essential elements or measures against which government information programs might be evaluated in terms of equitable citizen access to U.S. Government information would contribute to efforts at striking the proper balance between competing principles in an environment of fiscal constraint..

Oscar Wilde has said "Truth is rarely pure and never simple." The Task Force understands that a simple, elegant statement of principles is not a short- or long-term solution to making decisions about public availability of U.S. Government information. However, such a statement would clarify ARL's own position on these matters and stimulate further discussions that contribute to a clearer understanding of the challenges faced by librarians, educators, and others engaged in partnership with the U.S. Government to make government information widely available.

The task force has developed the following six principles and encourages full discussion of them in terms of the opportunities, challenges, and financing questions posed by electronic information products.

DRAFT DRAFT DRAFT DRAFT

1. The open exchange of public information should be protected.

The open exchange of public information is essential to the progress of our society and, as a matter of principle, access to electronic information should be as direct and open as access to print products. While there is a legitimate need to protect properly classified information, excessive secrecy on the part of the Government should be opposed. Dissemination of government information to the public through libraries, as geographically convenient and politically neutral sites, is essential and vital in a democracy. The education, research, and library communities should work together to reaffirm their commitment and redefine responsibilities in their partnership with the Government to make unclassified government information broadly and equitably available.

2. Federal policy should support the integrity and preservation of government electronic databases.

If information is worthy of collection and storage, it is worthy of some measure of quality assurance to insure its integrity for future use. In addition, information properly classified for reasons of national security or protected by the Privacy Act should be secure from unauthorized access. Data should be secure from tampering or accidental modification. For information stored electronically, the placement of copies in multiple, decentralized locations rather than in a single source is one way of guarding against irreversible breaches in the integrity of a database. At the same time, because information stored in electronic form may change frequently, special measures may be required to ensure that the information product, at each point of access, is reliable--current, complete, and fully retrievable. For this reason, there may be instances where it is necessary for a government agency to prescribe conditions under which intermediary recipients (for example, a library or commercial vendor) ensure reliability and integrity before making it available to users.

Archival preservation of information stored in electronic databases is an integral part of maintaining the integrity of the records of Government. Some Government files stand as historic records of governmental decision making and of our civilization. Standards for the deposit of information from electronic files, delineation of responsibility, and Congressional funding to support implementation are necessary to ensure that appropriate U.S. Government information is preserved.

3. Copyright should not be applied to U.S. Government information.

Copyright is a private privilege and should not be available for any work of the U.S. Government that is produced with public funds. The Copyright Act prohibition of copyright of U.S. Government works is sound and should extend to work undertaken for the U.S. Government by a contractor or grantee. Policies and practices that allow a Federal agency or a private organization to exert exclusive rights or other kinds of proprietary controls over government information in any format should be resisted.

4. Diversity of sources of access to U.S. Government information is in the public interest and entrepreneurship should be encouraged.

Diversity of sources is important to meet user requirements, including users within government, for sufficiently varied information sources to allow for judgments on data credibility and assessment of government accountability.

Entrepreneurs from the commercial or non-profit sectors, including libraries and bibliographic utilities, may, using Government databases as inputs, produce information products with diverse formats, interfaces, and prices. New information products based on government information should be encouraged to stimulate a competitive environment where there is pressure to keep prices down and quality of service high. However, encouragement of entrepreneurship should not extend to include the granting of exclusive arrangements that result in a single point of access for the information.

Costs to the Government for supporting this diversity are recognized, particularly in conjunction with maintenance of file integrity. However, the costs should be balanced against the advantages of multiple sources of information and the danger of a single source.

5. Government information should be available at low cost.

The federal deficit rightfully highlights the need for reassessment of federal spending patterns. Government activities associated with the public availability of government information have costs associated with them and should be subject to the same scrutiny applied to other parts of agency budgets. Essential to undertaking an effective, long-term view of agency information programs is identification of the purposes that the information content serves, within and outside of government, and a judgment of its relevance to fulfilling government responsibility for making information available.

The test should be whether there is a legitimate governmental role and public need in creating and distributing particular information products, not whether a for-profit firm could sustain an

information product if the government did not have a similar product. The value of tax supported publication has long been recognized for print products. The same logic militates the tax support of particular electronic publications.

Federal funding should be made available to agencies to create and maintain necessary government information products so that user fees and/or high sales prices are not necessary to maintain basic support for the product. The cost to a Government agency of maintaining the quality and timeliness of a database, and of upgrading the information service, should also be funded by Congressional appropriations.

Copies of most government databases should be made available at simple reproduction cost. If a purchaser can reasonably be determined to be a non-U.S. resident or organization that has not contributed to the tax base supporting agency development of the product, a higher price may be justified. Duplicate copies of government databases, even without user-ready interfaces, could be further enhanced by commercial firms, libraries, or other intermediaries to make the information available to the research, scientific, and business communities and/or the general public. This approach prevents any monopoly control over government information and would allow the prices of final products or services to reflect only the value added in the development of end user products and nothing more.

6. A system to provide equitable, no-fee access to basic public information is a requirement of a democratic society.

Since 1895, libraries designated as part of the Congressional Depository Library Program (Chapter 19 of title 44 of the *U.S. Code*) have served as partners with the U.S. Government to make public information readily available to all citizens at no-fee. Information should not be excluded from the Depository Library Program on the basis of format. Federal agencies should make their information products available to the public through the Depository Library Program, including those in electronic formats. Information of an administrative nature with no public interest or educational value, or that properly classified for reasons of national security, is excluded from the program.

Agencies with electronic files should be encouraged to provide information products with convenient interfaces to improve access by end users. Examples are the *Monthly Catalog of U.S. Government Publications* and the *Code of Federal Regulations* on CD-Rom or the status of bills and an index to legislation on-line. However, the absence of such agency developed interfaces should not exempt the product from the program since depository libraries may elect to purchase or develop software in order to make such products available as part of their depository

responsibilities.

The inclusion of government information in electronic formats in the Depository Library Program will have a profound and pervasive influence. Congress, the Government Printing Office, and the library community should review the Depository Library Program to assess the impact of electronic products on the program. What must be preserved is a program that provides equitable, no-fee access to basic public information for all citizens.

Pursuit of the Principles in a Changing World

Technology provides us with an array of new options for making government information available to the public. This positive development however could lead to serious restrictions on access to information if the technology, or any particular medium, is allowed to dictate policy. There are fundamental principles inherent in a democracy that must be reflected in government information policies and these principles should not be dismissed because the format of the information changes.

Inattention to fundamental principles in support of public availability of Government information allows a vacuum to form wherein decisions are based largely on environmental pressures such as political polemics, budgetary constraints, marketplace economics, and/or administrative convenience. Decisions so made can result in practices of benefit to one segment of our society but to the disadvantage of others.

There will inevitably be a need to make trade-offs, weighing one principle against another. For example, diversity of sources of access to information makes it more difficult and costly to ensure that each site has the most recent update to a file, a basic feature of maintaining the integrity of files. Both principles are highly desirable but to some extent work against each another. The point the Task Force emphasizes is the need for policy makers and program administrators to be aware of the critical balances that are sought.

The public good is best served when principles underlying longstanding government information policies, and their significance to other policy goals of the nation, are acknowledged and considered. This awareness should contribute to sound judgments about specific information programs.

INTRODUCTION TO PROGRAM

D. Kaye Gapen
University of Wisconsin

The Task Force on Government Information in Electronic Format, which is responsible for this program, was formed as a result of a letter from David Weber to the ARL Board suggesting that perhaps ARL should take a little time to look into the Depository Library Program proposed pilot projects involving dissemination of government information in electronic format. What we found in that look has profound implications far beyond those projects. Our goal for this meeting is to try to make clear some very complex relationships. We want to present the different roles that government agencies may begin to play in terms of government information in electronic forms. We want to look closely at the issues and the policies that are related to public access to government information. And we want to consider the roles of the research library in regard to changing government information patterns and the depository library system.

The members of the task force have concluded that the questions that we face in regard to these issues are probably more serious than the AACR-2 questions we faced in the 1970s. The actions that we hope the Association and its members will take will affect the ability of universities to undertake and to complete significant research, and they may change the role and responsibilities of libraries within the Depository Library Program. We believe our actions could also influence the political and the actual viability of our democratic society.

We had some discussions when we planned this program as to whether we should invite some of the people with whom we have been talking, for example, people administering the Depository Library Program. We finally decided not to do that. We believe we should discuss these issues ourselves and be able to talk about them frankly before we begin to have dialogues with other interested parties. The frank discussions are important because we have seen the widespread notion that the changing patterns for the creation of government information, its distribution and use, is not going to cost anything to the user, and indeed it is going to save the government agencies money. And we are here today to say emphatically that that is simply not the case. The issues are not that simple in any regard. The reports, therefore, are being written for several different audiences. We want you to know that. We are not just writing for ourselves as members of the Association. We are writing for people in government agencies who are very concerned with the topics, and, indeed, for people in the private sector.

We hope you will leave this program with one other message. Many of the issues that we are addressing have been the responsibility of government documents librarians around the country. We want to stress that the topics and the policies that are being discussed now need to be discussed by the directors of libraries. They have gone beyond the scope of what is normally done in the Depository Library Council and by government documents librarians. We must also address these vital issues.

Now, Nancy Cline is going to take a few minutes to describe what the task force has done and how we went about doing it.

BACKGROUND: THE ISSUES AND THE TASK FORCE

Nancy Cline
Pennsylvania State University

You all know, from seeing our reports, that we are the Task Force on Government Information in Electronic Format. About halfway through our assignment, we began to wish that we had gone with one of our original thoughts for a name---Government Reports and Information in Electronic Formats. Then, for all posterity, we would have been referred to as the Task Force on GRIEF. We were convinced that would be more appropriate!

The charge given to the task force by the ARL Executive Committee instructed us to consider the following questions.

1. What is appropriate government information to be issued in electronic format, and what should not be so issued?

2. What federal agency or library actions could be taken to ameliorate undesirable obstacles to user access stemming from issuing government information in electronic format?

3. Should ARL encourage one or more of its members to develop a proposal for a pilot project that would provide a simple, economical, and standard way of making this material available on behalf of a consortium of ARL members supportive of such a coordinated effort? What would be the advantages and disadvantages of doing so?

4. Are there staff training needs in ARL libraries required to provide effective services for the variety of electronic formats and files used by the U.S. Government?

Starting with that charge and working with an over-arching goal that ARL libraries should continue to assure reasonable access to U.S. Government information, we embarked on a pretty rigorous process exploring all the various sectors and participants in this process. As a part of our background work, discovering the breadth and depth of the issues, we first embarked on a literature survey to see what written reports, findings, etc., were available to us, including government hearings and reports, general articles, etc. We found some interesting conflicts, but primarily we found some pointers that we needed to follow through on.

There were a lot of relevant policies in the federal sector, and some of these have been outlined for you in the material that you will be working with at this meeting. (See Report No. 2, Appendix B of these *Minutes*.) Beyond the policies, there were also a number of practices that we had to investigate, especially some agencies plans for their information products. We followed pretty carefully the work of the Joint Committee on Printing, particularly its ad hoc committee that was working on electronic information projects within the depository community. We met with officials from the Office of Management and Budget (OMB), the Patent and Trademark Office, and

the Census Bureau, and with a House of Representatives Subcommittee dealing with appropriations for these GPO projects as well as other information management activities within the federal sector. Kaye, in particular, met with a group of concerned professionals about the issue of sensitive but unclassified information. We reviewed a variety of proposed projects, agency plans, and so forth.

We also attempted to review the library scene, recognizing that there are many differences within the membership of the Association of Research Libraries, and among the libraries that we work with as participants in consortia, etc. We found that there were quite a range of states of readiness to deal with this issue. We also looked particularly at the Depository Library Program, because it is through that program that we may be asked to provide services for some of these electronic information resources.

Reviewing its history, purpose, value, etc., led us to a variety of working relationships and investigations with ALA, e.g. the Government Documents Round Table (GODORT), and other special interest groups.

We scanned activities that were taking place in the major networks and were also conscious of developments that were coming about in telecommunications on both the industry and the academic side of networking issues.

As you can guess from this list--and I imagine I have overlooked a few of the things that we tried to cover in obtaining background information--we came up with quite a complex and, I believe, a sometimes overwhelming array of information continually being shaped and reshaped by local initiatives and activities within the government sector relating to privatization of information resources, the budget, individual agency needs as their missions undergo certain changes, as well as what was happening in the private commercial sector, and developments that affect individual users. Our task, then, became one of turning the mass of information that we had gathered into something that was meaningful and useful and could achieve results for the ARL membership.

I would like to take just a moment to review with you some information on the Depository Library Program. Most ARL member libraries are designated as depository libraries; within the U.S. membership there are only five libraries that do not have depository responsibilities. The Depository Library Program is a Congressional program, administered by the Government Printing Office, intended to place collections of U.S. Government publications in nearly 1400 academic, public, and special libraries, geographically dispersed in what we like to refer to as a politically neutral setting, and to assure citizens of no-fee access to information by and about the government. Basically, there are two types of depository designations: selective (which the majority of us are) and regional. Each of these have different responsibilities to the Federal Government, and, of course, responsibilities to their own individual institutions.

As depository libraries we receive publications directly from the government at no direct cost and in exchange, we agree to provide service and access to the public for these. There is a wide variety of information that is distributed through the program. In terms of quantity, to put this in focus in terms of our collections and responsibilities, the GPO reported that in 1986 they distributed 51,000 titles in paper and microfiche. This is a significant amount of information and you can see that if the agencies begin a major shift away from print form production to electronic resources, we will have a considerable flow of information to manage.

The current situation with the GPO pilot projects, which were at the heart of our getting into this study, is that the Joint Committee of Printing is moving forward with the concept of GPO

embarking on some pilot program. As you might guess, however, since the time frame continues to stretch out as we go through the budget process, some of the agencies are changing the things that they want to do, new ideas are being put forward, and some of the projected projects are being withdrawn. If and when we get a pilot project underway, it may not have the dimensions of those that were described originally. But there is commitment to move ahead in this area, and the GPO in its own budget request has identified a means by which they can produce revolving funds in support of some of those projects. The main thing to keep in mind is that we have a legal basis and a working partnership with the Federal Government in managing the Depository Library Program. If either the agencies or the GPO moves toward electronic resources, it will not be something we can ignore, particularly if it happens to affect resources that have been the mainstay in our own individual institutions.

You received Report No. 1 from us last fall. In putting that report together, we believed we had come to grips with a number of key issues. What I would like to do is just take a minute to remind you of the assumptions that we were working with in that report. We used a set of working assumptions that government information is indeed a public good. The importance of the government library partnership to serve citizens is an important issue. The trend toward making government information available in electronic format is going to increase. We also developed for that report a taxonomy of government information in electronic form as a working tool. We recognized that a balance needed to be struck between standards and the degree of flexibility that would support creativity particularly in the research environment, and that there were limitations on what is currently recognized as the scope of the Depository Library Program. This is a capsule summary of our assumptions. There are many who think that the Depository Library Program can be limited to only information in print form and there is quite a conflict between those who believe that and those who are on the receiving end of the information.

This migration to electronic information format brings with it a significant number of both advantages and disadvantages that require considerable management attention. In Report No. 2, we clearly moved into areas of greater depth looking again at all the broad implications for the research community. What we will be addressing at this meeting is the application of a value-added processes model to increase our understanding of the shifting costs in this complex array of electronic information and systems. The issues are complex, and though often we would like to put them in a desk drawer and hope the problems will go away, they will not. There are many, many important forces that are working here. The issues are important within our individual libraries to many of the programs that are essential to collection management and development, resource sharing, preservation, and to that broad umbrella that we talk about more and more frequently--scholarly communication and scholarly information processes.

There are some serious consequences in terms of how electronic information resources are produced and managed. We will have to contend with the conflicting tensions in balancing institutional needs, dealing with individual users, trying to keep on top of the government sector, and also balancing activities in the public and commercial sector, as well. In our assessment, we came to believe that an understanding of the value-added processes would be critical in working through these issues. What we hope to present to you is a framework that will enable all of use as individuals to manage these conflicting courses.

I would like to remind you on behalf of the task force that while we will be focusing on government information, this is only a microcosm of the factors that we will be dealing with as we add other electronic resources to our collections. And we believe that ARL, as Kaye said, is going to be a key player in forming policies and affecting what will be a key transition period as we move to increased use of electronic information resources in academic research communities.

MEMBERSHIP DISCUSSIONS ON

GOVERNMENT INFORMATION IN ELECTRONIC FORMAT

During this portion of the program session, Malcolm Getz, Associate Provost for Information Services at Vanderbilt University, led meeting attendees through a marketing exercise focusing on several government information products in a variety of formats, and in particular looking at the various roles of government agencies, libraries, the private sector, and users.

Following the discussion of government information products, Mr. Getz led a discussion of several potential ARL policy positions. Topics covered included copyright of U.S. Government information, the cost and availability of electronic government information, the role of Depository Libraries in supplying government information in electronic information, entrepreneurship in the private sector vis-à-vis government information, federal policy toward government electronic databases, the open exchange of public information, and funding in support of public access to government information. No specific policy positions were adopted at this meeting.

In a separate discussion session, meeting attendees participated in an exercise in applying the value-added model to the *Monthly Catalog of U.S. Government Publications*.

PROGRAM SUMMARY

D. Kaye Gapen
University of Wisconsin

Report No. 2 includes an executive summary of this topic that might be used in discussions with campus faculty and/or institutional officers (Appendix 4). We have left a blank in this summary for recommendations for local and national strategies to address the issue. We encourage your suggestions. There are some specific strategies suggested in Task Force Report No. 2 (Section XI); let me just remind you of what they are.

1. To develop a set of ARL positions on government information policy. Should ARL develop a set of policy positions, and if so, are the eight policies we present the appropriate ones?

2. To assess training opportunities for needed skills. We suggest that, since we know we are probably going to have to do a lot of retraining, that it would be useful for an agency to assess our training programs and see if they are appropriate to the training that might be required within the environment described in this report.

3. To pursue a forum for the directors of the depository libraries. We believe that the nature of the depository program is likely to change given the impact of information in electronic form. And it would be extraordinarily useful if the directors of depository libraries were able to meet and discuss the implications for change in the depository program, to reaffirm the importance of the depository program and also to help the government agencies plan for how those changes might occur.

4. To consider these trends in ARL planning. We met with the ARL Collection Development Committee and were asked the question of what in the report we thought had implications for collection development. We believe the implications of this kind of electronic information goes far beyond government documents or government information; the issues related to electronic information in general. So, there are many implications in this report for ARL planning, but we need to see if you agree, since it would have implications for all of us.

We are very interested in your comments on these strategies and also we would like your assessment of the value-added model. We are going to try to continue to develop a small model that would allow us to substitute actual broad costs for the numeric indicators currently used to get a gross idea of shifts. The model should be considered within the context of the whole report because on its own it is only one tool for addressing the analysis of alternative formats.

The task force suggests several elements that you might want to consider as you are planning access to electronic information. First, determine the public policy significance of the information system and then other policy implications for your own campus. Second, consider the value-added

characteristics that are needed by the creator, the mediator, and/or the user of the information and consider any shift in the provider of those values as the format of the information changes.

Finally, consider the shift in costs which can be anticipated as a result of this analysis. There is a fuller explanation of this in Appendix 1 to Task Force Report No. 2 [Appendix B of these *Minutes*], including a simple planning checklist of how you might proceed. The first thing is to look at the information product using the taxonomy and ask questions like who are the primary clients and other users who would be using the product. The second step would be to consider issues of cost and this is where the value-added model would come in. Then the third step would be to consider issues of resource sharing as an alternative approach. Following that kind of analysis you would probably then be in a position to make some decisions.

I want to thank the members of the task force and Jaia Barrett, who has been our ARL staff person. The result of all of our work you have before you. We had an excellent group and we have worked hard. We have had far-ranging discussions and I have certainly learned a lot. We hope we will come out with the best we can, and we are all interested in any comments you might have on our work.

BUSINESS MEETING

[President Herbert F. Johnson (Emory University) convened the Business Meeting at 2:00 p.m. on Thursday, May 7, 1987.]

SERIAL PRICES

Joseph Boissé (University of California, Santa Barbara), chair of the Research Libraries Group (RLG) Committee on Collection Management and Development, reported on recent discussions of the RLG committee concerning serial pricing. He noted that differential pricing and serials prices in general have been of concern to various groups within RLG for some time. The Collection Management and Development Committee began discussing them last fall, but has not yet developed any specific strategies. At its February meeting, the RLG Board of Governors passed a resolution instructing the committee to move rapidly to find a way to guarantee continued access to serials during this current financial crisis. Mr. Boissé added that throughout these discussions, RLG's counsel has taken a very conservative approach, urging caution in discussing options so as not to be liable in the matter of restraint of trade.

In April, the committee met and came up with a variety of strategies. A short term recommendation is to conduct a survey of the RLG membership to produce a database listing all serial titles costing $200 or more held by members. Each institution would code the titles on its list as to whether:

a. the institution does not subscribe to the journal;
b. the institution does subscribe to the journal but cannot at this time make a commitment to keep it; or,
c. the institution subscribes to the journal and is prepared to make a commitment to continue to subscribe for at least three years.

The data will then be collected, correlated, and shared throughout the RLG membership for use in local decision making.

A longer-term approach under consideration is to form subgroups of six institutions that have especially strong collections in particular areas to determine institutional commitment to continue to subscribe to which titles definitely over a longer period of time. The goal is to establish enough of these small consortia to cover at least the critical areas. Mr. Boissé stressed that this should be seen as a positive approach to guaranteeing continued access to resources within the consortia rather than a means of planning cancellations. The committee has suggested mounting a database of information to track the costs of journals, covering not just the subscription prices, but also changes in format, such as increase in the number of pages, which is stated as the reason for some increases in prices. Each RLG institution will be responsible for monitoring certain titles.

Mr. Boissé mentioned that the University of Michigan has produced a slide presentation with text that can be easily adapted by other institutions to use in making presentations on campus about this serious problem. Richard Dougherty (University of Michigan) stated that a set of the slides is available for $25.00.

Irene Hoadley (Texas A&M University) commented that, as a result of concern over this issue on her campus, the Legal Affairs Office has decided to approach the state attorney general for a ruling on the issue of discriminatory prices. Mr. Dougherty noted that even with a favorable ruling on price discrimination, the problem of increasing serial prices is not eliminated, because the library profession has been effective in getting foreign publishers to begin eliminating the differentials. Instead of lowering North American prices, however, the publishers have continued to raise prices to subscribers in their own countries. It appears that in the case of the major publishers, even considering inflation and other factors, the profit motive is the driving force for serial price increases. A relatively small portion of publishers appear to be responsible for the problem.

Sharon Hogan (Louisiana State University) announced that LSU is developing a database that, to date, comprises its 1200 most expensive journals (over $200). This represents about 10% of LSU's journal titles and 73% of the journal budget. This information is available free to interested institutions.

Sheila Creth (University of Iowa) asked what ARL can do to inform the various scholarly associations about this issue, as data becomes available from the publishers and from individual institutions. She noted that the faculty on her campus are interested in getting data they can use with their professional associations and societies to exert pressure on publishers. ARL Executive Director Shirley Echelman reported that this issue has been discussed several times by the Board of Directors of the National Humanities Alliance, which comprises 27 scholarly societies, the Association of American Museums, and ARL. As information becomes available to ARL, it is shared with that group. Another member of the NHA Board is Stanley Katz, president of the American Council of Learned Societies (ACLS). He, in turn, makes the data available to the executive secretaries of the 51 ACLS member organizations. In a similar way, the information is being made available to the Consortium of Social Science Associations (COSSA). The American Association for the Advancement of Science (AAAS) has been tracking this issue very closely, and there have been relevant articles in *Science, Physics Today,* and other journals.

Mr. Dougherty commented that one of the offshoots of the Michigan slide presentation was the refusal of a distinguished art historian to review an article for one the more prestigious publications. That one refusal--from a scholar not usually concerned about library costs--generated substantial correspondence for the editor and associate editor of that journal. Encouraging scholars to communicate directly with editors on this issue may be very helpful, as the articles are the one thing on which the publishers do not have a monopoly.

Kenneth Peterson (Southern Illinois University) commented that probably all ARL institutions have been making cuts. He noted that the strategy to identify those publications that have instituted exorbitant increases and then cut those journals probably will not have much impact if only a few subscriptions are actually discontinued. The Association acting as a unit would have much more leverage. Mr. Johnson warned that that kind of activity could be seen as restraint of trade, which is why it is important to focus on guaranteeing access to serials and to making data available so that institutions can make informed decisions. Ms. Echelman commented that ARL's attorney had been consulted more than a year ago about this. He cautioned that ARL would likely face a lawsuit as being in violation of the Sherman Antitrust Act. If there is interest and support among the membership, however, ARL could take on a suit for publicity purposes. She added that last summer the issue was explored with the International Trade Representative, who is with the U.S. Department of Commerce. The response from his office was that there was not an issue; if the journals were too expensive, we should buy other journals.

Ms. Eshelman testified on April 9 at the Copyright Office hearings--the second five-year review of the Register's report--and spoke about the enormous escalation in journal prices, particularly foreign journals, although there have been large escalations in some American journals. She stated that if there are massive cancellations, some of these journals may die as a result. She warned the Register that if this happens, publishers may come to the Copyright Office and claim that these titles have died because of library photocopying in excess of fair use, and she urged the Register to investigate any such claim very carefully, especially against the publishers' pricing policy. The Register was very interested in this point and asked ARL for additional information.

Harold Billings (University of Texas) pointed out that in may ways, it is much more expensive not to have information than to spend lots of money for information. We must be very careful about monitoring access. He noted that there are currently two bills before the Texas Legislature that would prohibit any state agency from buying from a foreign vendor, except in special circumstances. He warned about getting into legal areas that may have the potential of hurting sources of information more than helping libraries provide access to that information.

ARL RETROSPECTIVE CONVERSION PROJECT [See Appendix C of these *Minutes*]

Mr. Johnson briefly reviewed the status of the ARL Retrospective Conversion Project, a two-year pilot project that was approved by the membership in May 1985 and began in July 1985. In the past year, a substantial amount of work has gone into preparing the evaluation of this project, following criteria for review contained in the original project proposal. The current report was prepared by staff and reviewed by the ARL Committee on Bibliographic Control.

Because of time constraints, the report was sent to the membership at the same time it was sent to the Board. Mr. Johnson presented a summary of the Board's discussion earlier in the week and the resulting recommendations. He noted that the final decision on the future of the ARL Recon Project was to be made by the membership. Board discussions on the Recon Project and the report were substantial, and covered the accomplishments of the project as well as the status and funding prospects of several specific collaborative recon projects. As a result of its deliberations, the Board made the following recommendation:

> "that effective July 1, 1987, the ARL Recon Project be incorporated into association activity as a clearinghouse to gather and disseminate information." [This is essentially Option 3 of the report, but absorbed into regular association operations.]

Late in the Board's discussion, after the basic decision and recommendation had been made, it became apparent that some of the funds from the special membership assessment to support the project would be left over at the end of the two-year period. While a final accounting will not be available until after June 30, it appears that there will be between $29,000 and $45,000 left from the project funds. Once the final accounting of the project has been completed, the decision on dispersal of unused funds will come back to the membership.

The ARL Committee on Bibliographic Control also met prior to the Business Meeting and after substantial discussion decided to take no further action or present an alternative to the Board's recommendation.

Mr. Johnson convened the membership into a committee of the whole to discuss the report, the evaluations, and the recommendations. Among the points made were:

-- It would not be appropriate to ask the membership for continuation of a special assessment to continue the project.

-- Is it still necessary for ARL to be concerned with retrospective conversion, as many institutions are doing this on their own?

-- When the project was approved, the consensus was that it was important; the debate was over the price tag. Has the importance disappeared?

-- The money that is left should be used to continue the project, or at least for the same purpose, as long as the funds are still available.

-- As noted in the report, there have been a number of accomplishments by the project. Some records have been converted that might not have been, and there have been some funds attracted for recon projects, though it is difficult to distinguish what is attributable just to the ARL project. Also, the cost break from OCLC for libraries participating in the project enabled libraries to convert more records.

-- The survey of member libraries in conjunction with the project identified five major areas where cooperative projects were desirable, and some action has been taken in these areas.

-- One project, technology, has involved eight libraries and substantial amounts of time for many individuals. The proposal for the $2 million project has been prepared and corporate funding is being sought. There have been difficulties, however, including not being able to use ARL letterhead as an officially-sponsored project, and no ARL help in approaching potential funding sources. Because of the resources already invested in this project, its organizers would like ARL help in approaching potential funding sources.

-- Another eight institutions have prepared a proposal for a $1.1 million project for retrospective conversion of Latin American materials and are beginning to seek funding.

-- There is still a substantial amount of retrospective conversion to be completed in ARL libraries. Some ARL institutions have completed conversion of substantial portions of their collections, but there are still many resources in these libraries and others that are not readily available. Plans for resource sharing, cooperative cataloging, and preservation will be markedly aided by the conversion of ARL libraries' catalogs.

-- The question is not whether recon is important, but rather whether the budgets developed by the various projects were too costly (e.g. $5-$9 per record) compared to under $3 per record with the utilities. With that discrepancy, foundations were rightly concerned about the extent of local commitment, and thus reluctant to fund projects.

-- The amount of records actually converted to date as part of the project is very small (115,000).

-- The project was adopted by the membership as a pilot. The decision as to whether to continue it should be based on what has been accomplished rather than the amount of investment already made.

-- Some libraries have received funding for their own projects in the five areas because they were able to show their efforts were part of a national project.

-- It is difficult to determine how many of the 500,000 records presently being converted are being converted as a direct result of the ARL Recon Project, and how many would have been converted in any case. And, because of funding problems, it is difficult to ascertain how many of the 1.5 million planned records will actually be converted.

-- The amount of external funding available is difficult to ascertain. It is unclear how many of the recent Title II-C grants made for recon projects were influenced by the existence of the ARL project.

-- The Board considered the project a mixed success. Accomplishments included the guidelines, and probably more library cooperation in recon than might otherwise have happened. The Board's conclusion was that the clearinghouse function was valuable for ARL and would be valuable as an ongoing activity. Also, with the finite amount of resources available to ARL, such a function should compete with other programs and activities for priority.

At this point, Mr. Johnson reconvened the meeting into regular session. David Bishop (University of Georgia), chair of the Committee on Bibliographic Control, moved

> "that the ARL Recon Project continue for the next three years--one year at Option 1, one year at Option 2, and one year at Option 3, as defined in the ARL Recon Project report--but with the provision that no funds other than those already provided by the Recon Project special assessment will be used to support the project."

Jay Lucker (Massachusetts Institute of Technology) seconded the motion.

In response to a question as to whether sufficient funds are available to carry out this motion, Mr. Bishop replied that it is not clear how much funding is available, between $29,000 and $45,000. During the two years of the pilot project, the funds have been underspent, and the intent of the motion is that the project be planned in such a way as to not exceed the amount available.

Mr. Johnson noted in preparing the final financial report on the project, the amount spent by ARL during the first six months of the report (July-December 1985) before the first assessment was collected, should be recovered from any surplus. While final figures would not be available until after July 1, 1987, at this time, if $19,300--the July-December 1985 start-up costs--are subtracted, the balance estimated to remain is $26,281, or approximately $222.72 per member. Anne Woodsworth (University of Pittsburgh) noted that the Board did not have full financial information for its discussion. She noted that ARL is currently in a deficit situation and a dues increase in the upper end of the 4-7% range is anticipated. For that reason, she could not support continuing the project over three years, even if the money were available.

Roscoe Rouse (Oklahoma State University) noted that a negative vote on the motion was

against the specific option, not necessarily against continuation of the Recon Project in any guise. Russell Shank (University of California, Los Angeles) agreed, and noted that there may be other ways to address the issue of retrospective conversion. If one objective is to increase machine-readable records for resources in ARL libraries, then an approach might be to label it something other than retrospective conversion, i.e. seek funding to increase the size of the national cooperative database so that the records will be there, even with no holdings attached. If resource sharing is the goal, then a project that adds the most holdings recorded on existing or newly-added records is needed. Thus, ARL may want to look at an entirely different kind of project, approaching funding sources to help increase the size of the major not-for-profit databases and/or increase the number of holdings that are recorded in these databases.

Ms. Hogan commented that the Bishop motion allows for an orderly phase-out of the project and would be quite helpful to those cooperative ventures that are in progress. Susan Martin (Johns Hopkins University) agreed but noted that the results of the project have not been all that successful. Is there a way to allow a faster phase-out to act as a cushion for the projects already in progress or under development?

Mr. Lucker returned to the issues of adding record and holdings to the bibliographic databases. He noted the technology project, over three years, would add 750,000 records to the database plus the technology holdings of all eight cooperating libraries. These libraries are planning to invest their own resources as well as seeking outside funding. But, whether or not the ARL Project continues, Mr. Lucker reiterated that he has a national and international responsibility to make known the holdings of his library, particularly those items of which MIT has the only copy. The search for funding for the technology project will continue. He commented that he would favor a shorter extension of the ARL Project--up to a year--and an opportunity to have official help from ARL in seeking funds.

Marianne Scott (National Library of Canada) spoke in favor of the motion, noting that the project has been a very good catalyst for retrospective conversion, and has encouraged a substantial amount of coordination, planning, and cooperative effort.

The question was moved and seconded and passed. Mr. Bishop repeated the motion, and it was defeated.

Michael Gorman (University of Illinois) made the following motion, which was seconded by Marianne Scott:

> "that a proportion of the funds still available from the Recon Project be assigned to the completion or furthering of existing Recon projects during the year following the end of the Recon Project."

Mr. Gorman explained that this recommendation is similar to Option 2 of the report. The sum set aside for Option 2 is about $14,000. He expressed concern that there be sufficient money to enable efforts which are already underway to be furthered or completed. Also, this would allow a year for those institutions to work out some other way of continuing the project rather than simply cutting them off on June 30, 1987.

Mr. Lucker and Ms. Hogan were asked to provide more details of the projects in progress and what the effect of ending the ARL Recon Project on June 30 would have on these projects. Mr. Lucker said that he thought a year would be a reasonable amount of time to continue the ARL Project. The technology recon project is in the stage of having completed proposals and needs

help in raising the $1.4 million needed to support the project. To this point, they have been unable to attract the right foundation support, and they believe that with the full power and prestige of ARL behind them, they would be able to attract that kind of support.

More information was asked for about precisely what activities would be supported during that year and what the cost would be. Mr. Bishop stated that he was not sure, but what Mr. Lucker described was very similar to the second option the Committee on Bibliographic Control had proposed in the report, though the Executive Director's time, particularly in fund raising, had not been budgeted into any of the options. He noted that because of Project Coordinator Jutta Reed-Scott's careful use of resources, the project has consistently come in under budget. Thus, the one-year option would seem to be similar to Option 2, which has a projected cost of about $14,000. While that option does not include fund-raising specifically, Mr. Gorman's motion suggests something different from what is in the report.

It was noted again that the project was approved as a two-year pilot, and that ending it at the end of two years should not be considered "cutting someone off at the knees." It does not seem appropriate to continue the project; the proposed projects might not be funded any way. Barbara von Wahlde (State University of New York at Buffalo) commented that the proposal in Mr. Gorman's motion was equally as fuzzy as the recommendations in the report. The costs are not clear; the criteria for measuring accomplishments are not clear. How is the success of the project to be measured--by the number of records converted or by getting a project closer to funding? At this point, the membership voted on the Gorman motion, which was defeated.

Irene Hoadley (Texas A & M University) moved, with George Shipman (University of Oregon) seconding, that:

> "ARL complete its pilot Recon Project on the present schedule of June 30, 1987, without any continuation effort."

Ms. Hoadley stated that the money question should be treated as a separate issue. First, the membership must decide whether it wants to continue the Recon Project itself; if so, it can then decide whether it wants to put additional money into it. Ms. Taylor noted that the Board discussions had left open the possibility of retaining the clearinghouse function and that a number of Board members found that a useful activity to be continued. Ms. Wordsworth moved a substitute motion, with Elaine Sloan seconding:

> "that, effective July 1, 1987, the ARL Retrospective Conversion Project be incorporated into regular ARL activities funded through the regular ARL budget and continuing as a clearinghouse to gather and disseminate information."

Ms. Hoadley commented that the Woodsworth motion was, in essence, the same as her motion, though it incorporated the possibility of continuing the clearinghouse function more clearly. The membership voted to substitute the Woodsworth motion for the Hoadley motion. The membership then voted on the Woodsworth motion and it passed.

Mr. Johnson then read a resolution passed by the Board during their meeting, as follows:

> "Whereas the ARL Recon Project has achieved considerable successes, including preparing guidelines, raising consciousness, stimulating funding, and converting records;

Therefore, be it resolved, that the Board of Directors of ARL extends special thanks to the coordinator of the project and the Committee on Bibliographic Control for their efforts and leadership."

ARL BUDGET

Mr. Johnson reported that late in 1986, it became apparent that ARL would end the year with a deficit of about $43,000 (ARL Executive Office only; OMS project funds and other special projects not included). The deficit was made up from the Operating Reserves. There were several reasons for the deficit not being apparent until late in the year. First, due to personnel changes and efforts to automate ARL's accounting system, accounting information was generally slow and delayed. Second, both interest and publications income were considerably less than had been projected in the budget. While several major expenditure categories were within budget--and salaries, the largest expenditure area was underbudget--several expenditures areas were over budget. These included administrative and publications expenditures, and expenditures for committee, task force, and Board activities. Recognizing this late in the year, it was difficult, if not impossible, to do anything to affect the 1986 figures. Of more concern, however, was the fact that the 1987 budget was built on the experience of the previous year, and thus it was likely that the numbers in the 1987 budget, which had been adopted, as usual, at the Board meeting in October would not be adequate for current needs. The Executive Committee, which also serves as Finance Committee, met with the Executive Director in March to work on the fiscal situation in more detail. The best estimate currently is a deficit of $30,000 projected for 1987.

At the beginning of the year, the staff called on ARL's auditors to work closely with them in reviewing the books and the accounting system to be sure all is functioning effectively and that timely reports are produced. A new accountant was hired in March. Staff was also asked to look at various ways to increase income and reduce expenses for 1987. In March, the Executive Committee decided to make no changes in the 1987 budget but asked the staff instead to work to bring the budget into balance this year. The Board will adopt the 1988 budget in the fall. Planning between now and then will take into account the continued goal of operating on a balanced budget as well as program priorities. The Board will look to the membership for input during this time, and will review a number of ways to reduce expenses and to increase income. Some suggestions include: reviewing the policy on absorbing indirect costs on grants; relying more on program assessments, as with the ARL Recon Project; adopting fees for some services, e.g. the banquet at the membership meetings. At this time, it is anticipated that the dues increase for 1988 will be toward the higher end of the 4-7% dues increase range that was projected for the life of the five-year plan (this is the fourth year of that plan.)

The Executive Director was asked if the projected $30,000 deficit took into account the $19,300 in accounts receivable due to the early expenditures for the Recon Project. Ms. Echelman replied that the $19,300 is reflected in the audited report as an asset of the Association. If it is refunded to operations as the auditor has been expecting, since it has been carried as an account receivable, it will increase the fund balance of the Association. It is not reflected in the yearly expenses and income statement; it is reflected in the balance sheet.

REPORT OF THE TASK FORCE ON MEMBERSHIP CRITERIA [See Appendix D of these *Minutes*]

Ms. Woodsworth, chair of the Task Force on Membership Criteria, began by reviewing the history of the task force and its report. She noted that the Board had reviewed the report at its

February 1987 meeting and adopted it in principle, with the understanding that when the 1985-86 ARL library index was calculated, the new index scores would be incorporated into the report and the appropriate maintenance and entry level scores would be included in the final document. The Boar also recommended adjustments to the nonacademic library requirements which have been incorporated into the report. She then noted several corrections to be made in the document that had been distributed to the membership for discussion at this meeting. Mr. Johnson reviewed the recommendations on page 6 of the report. He noted that the first four recommendations were more procedural in nature and require Board action; the actual membership criteria, however, require action by the ARL membership. Also, if the membership adopts the criteria, essentially Appendix A of the task force report, there would then be consideration of the current moratorium on consideration of new members. Other necessary actions--establishing a membership committee, instituting application procedures, etc.--are policy and practice to be carried out by the Board and staff.

Mr. Johnson then convened the membership into a committee of the whole to discuss the report. During the discussion, the following points were made.

-- The Committee on ARL Statistics is currently considering the question of how to count volumes that are held jointly by a library or university system or a consortium of libraries, i.e. where ownership has been transferred from the individual institution to the consortium or system. Thus the matter of how collections are measured may have to be amended at some future time.

-- As the membership voted in October 1986, the ARL membership criteria index is now based on five data categories rather than on ten data categories.

-- The proposed criteria would change the basis on which the index is calculated from the entire membership to the 35 university libraries that were charter members of the Association. Given the number of changes in higher education in the past 55 years, is it appropriate to do so?

-- It was decided to use the charter members as the basis for determining the ARL membership criteria index because it offers a stable group and those libraries are fairly representative of ARL as it now exists. The flaw in the previous index was its gradual erosion as new members were added, thus challenging its reliability as a reflection of the commonality of existing members. The index could be based on any group of members. Over the years, the ARL membership criteria have been based on the current members. As new members have joined, there has been a decline in the index so that as smaller libraries join ARL than that makes it possible for even smaller libraries to join. It is very hard to break that trend without fixing a group that will not continue to enlarge itself from year to year. The task force thought a convenient group to do that was the 35 charter university members, as they are fairly well scattered over the range of members.

-- Does removing the number of microform units from calculation of the index have an appreciable effect, especially since for a substantial portion of the ARL membership, microform count for a substantial part of their resources?

-- In developing the five variable index, the object was to use the minimum number of categories necessary to identify libraries that look like the current

106 members. Of the items used in the ten-variable index, the number of microform units held was the element with the least similarity among current members.

-- As we are trying to get a handle on quality measures as well as quantity, should interlibrary lending, which is a significant reflection of the importance of research library collections, be incorporated into the index?

-- The new criteria, in addition to being the standard by which new members are admitted, will also be the standards by which current members will remain or not remain in the Association.

At this point, Mr. Johnson reconvened the membership into regular session. Ms. Woodsworth moved, with Mr. Lucker seconding the adoption of the "Statement on the Qualifications for Membership in the Association of Research Libraries," as outlined in Appendix 1 of the task force report.

In response to a question from the floor, Mr. Johnson commented that several institutions have expressed interest in becoming members of ARL when the moratorium is lifted, but it is not clear how many there are that would meet the new membership criteria.

Philip Leinbach (Tulane University) asked Ms. Woodsworth whether the task force had considered grandparenting current members so that they would not be subject to the maintenance requirement. Ms. Woodsworth replied that the task force had considered removing the maintenance requirement entirely but that there was strong expression on the part of the Board of the need for the maintenance provisions. Mr. Lucker added that if current members were grandfathered and only new members required to meet a maintenance requirement, that would be illegal. The new criteria would take effect with the next statistical reporting year, i.e. with the 1986-87 data.

The membership then voted on the motion to adopt the criteria, and it passed. [The final, corrected version is reported in Appendix D of these *Minutes*.]

MORATORIUM ON THE CONSIDERATION OF NEW MEMBERS

Ms. Woodsworth moved that the moratorium on the members, in effect since October 1985, be lifted effective immediately. Robert Miller (University of Notre Dame) seconded the motion, and it passed.

PLANNING INITIATIVE

Elaine Sloan (Indiana University), ARL Vice President/President-elect, reviewed the approach to planning for the Association's future that she is proposing as ARL moves into the final year of its current Five-Year Plan. She recommended not repeating the process of the previous planning effort, but rather to develop a new approach, building on what has been learned from the various activities of the past, both successful and unsuccessful. She plans to bring to the membership some alternative visions on what ARL should be and do. Once the membership agrees on a common vision for the Association, the structure--the staff, the governance, and the committee structure--needed to carry out that vision can be built. Within this process, ARL's priorities should be

clearly established.

EXECUTIVE DIRECTOR'S REPORT

Ms. Echelman had prepared a written report to the members on ARL programs and activities over the past six months. [See Appendix E of these *Minutes*.] She also reported on several additional items.

ARL has been able to engage a great deal of interest around Capitol Hill on the issue of preservation of brittle books. This has been aided in part because of the interest of the new Executive Director of the National Humanities Alliance, John Hammer. On April 30, Mr. Hammer sent a letter to Rep. Sidney Yates (D-IL), who chairs the House Interior and Related Agencies Appropriations Subcommittee, urging that a considerable amount of money be added to the budget of the National Endowment for the Humanities Office of Preservation for the specific purpose of microfilming brittle books.

On May 5, the Senate voted on a budget and, from a call just received from the ALA Washington Office, "it looks good for education and library funding."

Also as of May 5, there is still no official letter from the White House to the Senate on the appointment of a new Librarian of Congress.

At the hearings held by the Copyright Office on April 8-9, one of the witness was the Executive Director of the Copyright Clearance Center, Eamon Fennessy. In his testimony, Dr. Fennessy stated that the CCC was working with a major American university to develop a model blanket license for universities of the same kind and character as they had developed with the corporations. The ARL Office is interested in knowing which university that is, and Ms. Echelman asked directors to notify her if they learn their institutions are involved.

PRESIDENT'S REPORT

Mr. Johnson reported that the format of the Board minutes has been revised and will present issues and discussions more succinctly than in the past. The same direction will be taken with regard to the *Minutes of the Meetings*, with summaries rather than edited transcripts of sessions. The change in the *Minutes* is in response to suggestions made by the Task Force on Association Responsiveness to Membership Needs, which met for the first time during this Membership Meeting. That task force was appointed in February. Its members are Richard Dougherty (University of Michigan), Joanne Euster (Rutgers University), Elmer Smith (Canada Institute for Scientific and Technical Information), Anne Woodsworth (University of Pittsburgh), and Kenneth Peterson (Southern Illinois University), who is the chair.

[See page 56 for discussion of the ARL budget.]

ARL INVESTMENT POLICY

Mr. Johnson reported that the Executive Committee, in its role as Finance Committee, adopted an investment policy, which had been in discussion for about a year. As part of that discussion, at the February Board meeting, the Board adopted the policy that the Executive Committee investigate

the problem of investments involving corporations doing business in South Africa. This turned out to be more difficult than first thought, because ARL has a relatively small amount of funds to invest and therefore must invest in general, broad mutual funds, government funds, etc., and it is not possible to track all the details of all the holdings of such funds. At its meeting this week, the ARL Board adopted the following policy with regard to investments and South Africa:

> "ARL shall not invest directly in any company doing substantial business in South Africa nor invest in any bank that is making new or renewing direct loans to the government of South Africa. In making investment in mutual funds, the Association shall give preference to those funds whose portfolios contain a high proportion of securities of companies either doing no substantial business in South Africa or adhering to anti-Apartheid policies such as the Sullivan Principle.
>
> Any member of the Association who has evidence that a company in the ARL investment portfolio is doing substantial business in South Africa and is not complying with the Sullivan Principle or other similarly accepted policies may bring this evidence to the attention of the Board, which will review the charge to determine what action to take."

The meeting was adjourned at 5:10 p.m.

SLOW FIRES

WARREN J. HAAS
COUNCIL ON LIBRARY RESOURCES

[During the ARL Meeting, the Council on Library Resources previewed *Slow Fires,* a film it had produced on preservation. Warren J. Haas, President of the Council, introduced the film to directors and guests at the meeting.]

Slow Fires is designed for a broad audience, typically the audience for public television. In fact, PBS is reviewing the film right now, and Robert MacNeil, the narrator, is bringing it to the attention of Channel 13 in New York, One of our hopes is that it will be on "prime time" public television--if there is such a thing--in the fall. The film is 57 minutes long, and thus geared to the hour time slot. We are also working on a half-hour version that will be condensed but will carry essentially the same message, though with somewhat different narration to fill the gaps.

The film will be for sale on 3/4-inch video cassettes and VHS cassettes, and for rent in 3/4-inch and 16 mm film, in about three weeks, though the American Film Foundation.

We have been thinking about the need to make the idea of preservation of recorded knowledge something better understood across a wider piece of the population than is now the case, if, in fact, we are moving into a period in which subliminal concern for preservation must be replaced by action--action over a long period of time costing a fair amount of money. Access to information is the corollary of preservation. We talked with a number of people and decided to go ahead. I found our producer when I was out in California doing something else and just happened to talk to someone whose son played soccer with Terry Sanders' son. We interviewed and looked at the work of three or four producers, and ended up choosing Terry Sanders, who is a UCLA graduate. He has been in the film producing business with his wife for some years now. He took a difficult subject, preservation of a book, and turned it into a classy, first-rate, eye-catching film.

The Andrew W. Mellon Foundation took the initial steps in helping us fund it and the National Endowment for the Humanities joined forces as well. We started out using some money we had from Exxon. The Library of Congress participated directly in both shaping of the film and, as you will see, in staffing some of the leading cast of characters. As few of you here will recognize yourselves as well as others.

APPENDIX A

TASK FORCE ON GOVERNMENT INFORMATION IN ELECTRONIC FORMAT
Report Number 1
October 1986

Executive Summary

Report No. 1 sets the stage for consideration of the most important elements which characterize the environment of the research library and government information in electronic form. We believe that the impact of technology on society and scholarly communication is broadly felt, and that government information in electronic form is a microcosm of the larger set of concerns which face scholars, researchers, higher education, libraries, citizens, government, and the private sector. Electronic information and electronic communication channels pose new questions for the integration of these elements into the scholarly communication and library world which exists today.

The ground for the work of the Task Force is found in a set of assumptions including government information as a public good, the importance of the government-library partnership to serve citizens, the increasing availability of government information in electronic format, a "taxonomy" of government information in electronic form, the balance needed between standards and flexibility for creativity, the impact of limitations on the current scope of the Depository Library Program, the advantages and disadvantages of government information in electronic format, and the requirement for unrestricted access to information.

The taxonomy of government information in electronic form is particularly important in establishing a consistent basis for the analysis of specific elements of proposals for pilot projects -- as well as for the consideration of larger changes occurring as a result of electronic information and communication channels. Volatility, public policy relevance, value to research, and the state of system development are the four dimensions considered.

The tasks for the task force agenda are then described and include: (1) Criteria for participation in the pilot projects; (2) Evaluation components for the projects; (3) An examination of the budget mechanisms which have supported the statutory requirement and the historical practice of providing citizens no-fee access to depository collections; (4) A consideration of research which requires access to government information; (5) A review of government information and telecommunication channels already available on ARL campuses; (6) An analysis of primary responsibilities for aspects of federal information management; (7) A response to the report of the House Committee on Government Operations; (8) The development of a strategy for assessing the impact of changing government policy or practices; and (9) A resurvey of the ARL membership determining the extent of interest in pilot projects.

Finally, it is important to note that the ARL Board believes this topic to be of such importance that the May Program Meeting will be devoted to the issues related to government information in electronic form.

We need to note also that this report represents the views of the members of the task force. Task force conclusions and recommendations for ARL positions and actions will be reported to the Board in the fall of 1987.

Members of Task Force
Nancy Cline, Pennsylvania State University
Malcolm Getz, Vanderbilt University
Jean Loup, University of Michigan
Barbara von Wahlde, SUNY at Buffalo
Kaye Gapen, University of Wisconsin, Chair

Attached to Report No. 1 are the following:

1. A set of Draft Criteria to be used for evaluating agency proposals, interested libraries, and the outcome of the projects (responses to Tasks 1 and 2).

2. A first drafting of an examination of the budget and economic considerations important in the analysis of the pilot projects and of electronic information in general (in response to Task 3).

3. A copy of a questionnaire sent to ARL libraries requesting a description of government information already available on campus -- as well as telecommunications systems. In addition, the questionnaire determines whether or not the library is interested in the pilot projects (partial response to Tasks 5 and 9).

TASK FORCE ON GOVERNMENT INFORMATION IN ELECTRONIC FORMAT

Report Number 1
October 1986

BACKGROUND

As the ARL Task Force on Scholarly Communication has noted, "Computing and telecommunications are causing revolutionary changes in society and its institutions. Extraordinary advances in microelectronics have fueled this information revolution, and scholarly communication and research libraries are changing rapidly and dramatically because of it as, indeed, are the needs of information users." (Reference 1)

What we are facing is an exciting view of the future (a future which has already begun) in which our present paradigm of library thought changes in response to a new information reality. Just what is a paradigm? In the sense that we are using it here, it is a framework of thought, a scheme for understanding and explaining certain aspects of reality. Paradigms shift when there is developed a distinctly new way of thinking about old problems. The King in a New Yorker cartoon announces that he can so repair Humpty Dumpty — but he needs more horses and more men. In just that irrational mode we try to solve problems with our existing tools, in their old context. As we face change upon change, much of our futuring is an attempt not just to construct specific scenarios of change and their possible resolution, but the larger search is for the underlying form of the new context and the key that would unlock our vision of the logic of a new paradigm.

What is new on our horizon is "electronic information" and "electronic communication channels," and they are both playing a strong role in creating the new context. They require of us a new paradigm not because they are "new" but because they have some essential characteristics with which we must deal and which are different from anything we have dealt with up to this point. The fact is that our present collection resources (paper, microformat, tapes, sound recordings, maps, AV materials, etc.) exist in "handleable" form and are delivered physically (in 'analog' form).

We have achieved a high degree of integration of these physical formats in almost all of our library operations: (1) we have integrated the logical bibliographic access to these forms by and large in one card catalog, (2) we have integrated these physical formats physically in our various collections with appropriate guides and self-help finding tools, (3) we are beginning to have a fairly adequate grasp on the patterns of use of these materials (scholarly communication), and (4) we have integrated these physical formats in our budgets and provide all of them to the campus community at no charge.

Electronic information, however, is created in digital form, is stored digitally on a variety of computer disc devices, and can be delivered digitally over a variety of telecommunications/telephonic networks. Electronic information is an increasing segment of manuscript preparation and book production in the publishing world, it is an increasing segment of research where calculating and computing are integral to the research effort, it is becoming extraordinarily useful in any work having to do with graphics, it is often available in addition to the physical volume, and it is now as often the primary and only copy of the information (i.e., it is taking the place of hardcopy formats).

A second major element of the new paradigm involves communication channels. In a recent EDUCOM Bulletin, it is stated that

> "Scientific research has always relied on communication for gathering and providing access to data; for exchanging information; for holding discussions, meetings, and seminars; for collaborating with widely dispersed researchers; and for disseminating results. The pace and complexity of modern research, especially collaborations of researchers in different institutions, has dramatically increased scientists' communications needs. Scientists now need immediate access to data and information, to colleagues and collaborators, and to advanced computing and information services. Furthermore, to be really useful, communication facilities must be integrated with the scientist's normal day-to-day working environment. Scientists depend on computing and communications tools and are handicapped without them....Computer networks provide the base that combines geographically dispersed researchers, computing resources, and information into a single integrated computer and communications environment." (Reference 2)

Government information -- its creation, dissemination, and accessibility -- has rapidly become a microcosm of the elements and layers of the new paradigm of electronic information. The Congressional Office of Technology Assessment (OTA) has stated :

> "The importance of the public information functions of the Federal Government has been recognized since the founding of the Republic. Congress has taken a long series of actions to institutionalize these functions, by establishing, for example, the national libraries (of Congress, Medicine, and Agriculture), Government Printing Office, Federal Depository Library Program, and National Technical Information Service, and enacting laws such as the Public Printing Act, Freedom of Information Act, Federal Program Information Act, and Government in the Sunshine Act....
>
> "However, new public information issues are being raised (and old ones exacerbated) by the confluence of several key trends: the continuing importance of public information; the reduction of paperwork and publications (in part due to requirements of the Paperwork Reduction Act (PRA) and Deficit Reduction Act); the growing role of the private sector (which depends heavily on the use of modern information technology); and the increasing Federal agency use of electronic collection, maintenance, and dissemination of public information.
>
> "Uses of information technology -- such as electronic document filing, computer-aided surveys, computerized databases, optical disks, electronic mail, electronic remote printing, and electronic bulletin boards -- could revolutionize the public information functions of government. There are already numerous Federal agency pilot projects, and some of the more visible ones have generated intense controversy. Once again, the issues are complicated because of inherent tensions involving public access and the public's right to know, the role of Federal agencies in actively disseminating public information, management efficiency and cost reduction, private sector cooperation and competition, and particularly for scientific and technical information, national security and foreign trade concerns.

"OTA concluded that further research in this area is warranted, but that, ultimately, Congress is likely to be called on to update existing public information laws and address a variety of issues, such as:

* the cost-effectiveness of electronic information options;
* the equity of access to electronic government information;
* the private sector role in Federal electronic information activities;
* the institutional responsibility for policy and operations concerning government information collection and dissemination;
* the need for a public information index or clearinghouse;
* mechanisms for exchange of learning from innovative electronic information activities;
* use of information technology in Freedom of Information Act implementation;
* electronic recordkeeping and archiving;
* scientific and technical information exchange; and
* other issues -- transborder information flow, depository library system, Federal statistical system, and copyright protection." (Reference 3)

The prospect of providing government information in electronic format to depository libraries accelerates the need for libraries to address the shifting paradigm and prompts a series of questions that turn concepts into very real questions of library and public policy. To begin addressing the questions raised, the following statements were identified as valid assumptions about government information and libraries.

WORKING ASSUMPTIONS

1. Government Information as A Public Good

U.S. Government information is and will continue to be a resource of considerable interest and value to the people of the United States. The availability of government information contributes to an informed electorate that provides the foundation for an effective democratic form of government. As government information benefits society as a whole it should be viewed and treated as a public good.

2. Government-Library Partnership to Serve Citizens

Citizens rely upon libraries as a source for government information and libraries rely upon the GPO depository program as a primary source for obtaining information collected or created by the U.S. Government. The intent of the depository program remains unchanged: to deposit significant segments of government information in geographically dispersed libraries where the public may gain access to government information without the imposition of a fee.

3. Increasing Availability of Government Information in Electronic Format

Increasingly, government information is created, stored and made available in electronic formats; in some cases, electronic formats have entirely replaced the traditional published formats.

4. Taxonomy of Government Information in Electronic Format

Issues raised when considering public availability and use of Government information in electronic format cannot adequately be discussed in generalities. Identification of a taxonomy or classification of potential electronic information systems or products would contribute to policy discussions that need to take place within government and within libraries and elsewhere. For example, systems might be classified on the basis of the following four dimensions.

A. Volatility
Some systems are highly volatile — dynamic and highly time sensitive; others are static.

B. Public Policy Relevance
Some systems convey information that is highly relevant to consideration of important public policies and thus are of broad public significance; others have information of little policy relevance and are of interest only to a specialized audience.

C. Value to Research
Some systems convey information that is highly significant for research; others convey information of limited research value.

D. State of System Development
Some systems could be compared to wholesale products, requiring significant added hardware and software support before end-users may make use of it; others are more like retail products, fully packaged and presented for end-users.

These four dimensions are described in terms of two extreme points on a spectrum. In reality, consideration of the characteristics of a specific system following such a classification will fall anywhere between the two extremes. The taxonomy is not intended as an absolute measure for policy making but rather is put forward as acknowledgement that not all government information in electronic format is the same and to identify some obvious categories of systems that will encourage policy discussions (within government and within libraries) to move from generalities to specifics.

The relatively simple taxonomy oulined here suggests sixteen different combinations of characteristics of government information systems. (See Tables 1 and 2. The order in which the categories are described does not infer priority or establish values.) Each combination, or different niche, may suggest different ways for policy issues associated with public access to the system and dissemination of the information to be addressed. The taxonomy could be subdivided further into files that are textual as opposed to other kinds of information as well as by the anticipated extent of public audience for the information, should these kinds of characteristics, or others, need to be considered in making policy decisions.

TABLE 1

Government Information In Electronic Format:
Sixteen Potential Combinations of Characteristics

Combination 1 Dynamic High relevance to public policy High value for research System ready for end-user ("retail product")	Combination 9 Dynamic High relevance to public policy High value for research System requires support ("wholesale product")
Combination 2 Dynamic High relevance to public policy Limited value for research System ready for end-user ("retail product")	Combination 10 Dynamic High relevance to public policy Limited value for research System requires support ("wholesale product")
Combination 3 Static High relevance to public policy High value for research System ready for end-user ("retail product")	Combination 11 Static High relevance to public policy High value for research System requires support ("wholesale product")
Combination 4 Static High relevance to public policy Limited value for research System ready for end-user ("retail product")	Combination 12 Static High relevance to public policy Limited value for research System requires support ("wholesale product")
Combination 5 Dynamic Little relevance to public policy High value for research System ready for end-user ("retail product")	Combination 13 Dynamic Little relevance to public policy High value for research System requires support ("wholesale product")
Combination 6 Dynamic Little relevance to public policy Limited value for research System ready for end-user ("retail product")	Combination 14 Dynamic Little relevance to public policy Limited value for research System requires support ("wholesale product")
Combination 7 Static Little relevance to public policy High value for research System ready for end-user ("retail product")	Combination 15 Static Little relevance to public policy High value for research System requires support ("wholesale product")
Combination 8 Static Little relevance to public policy Limited value for research System ready for end-user ("retail product")	Combination 16 Static Little relevance to public policy Limited value for research System requires support ("wholesale product")

Each of these sixteen combinations could be further subdivided into files that are textual as opposed to other kinds of information as well as by the anticipated extent of public audience for the information, should these kinds of characteristics, or others, need to be considered in making policy decisions.

Taxonomy of Government Information Systems

STATE OF SYSTEM DEVELOPMENT	VOLATILITY: Dynamic	VOLATILITY: Dynamic	VOLATILITY: Static	VOLATILITY: Static	RELEVANCE TO PUBLIC POLICY
Retail*	Combination 1 Dynamic High relevance to public policy High value for research System ready for end-user ("retail product")	Combination 2 Dynamic High relevance to public policy Limited value for research System ready for end-user ("retail product")	Combination 3 Static High relevance to public policy High value for research System ready for end-user ("retail product")	Combination 4 Static High relevance to public policy Limited value for research System ready for end-user ("retail product")	High
Retail*	Combination 5 Dynamic Little relevance to public policy High value for research System ready for end-user ("retail product")	Combination 6 Dynamic Little relevance to public policy Limited value for research System ready for end-user ("retail product")	Combination 7 Static Little relevance to public policy High value for research System ready for end-user ("retail product")	Combination 8 Static Little relevance to public policy Limited value for research System ready for end-user ("retail product")	Little
Wholesale*	Combination 9 Dynamic High relevance to public policy High value for research System requires support ("wholesale product")	Combination 10 Dynamic High relevance to public policy Limited value for research System requires support ("wholesale product")	Combination 11 Static High relevance to public policy High value for research System requires support ("wholesale product")	Combination 12 Static High relevance to public policy Limited value for research System requires support ("wholesale product")	High
Wholesale*	Combination 13 Dynamic Little relevance to public policy High value for research System requires support ("wholesale product")	Combination 14 Dynamic Little relevance to public policy Limited value for research System requires support ("wholesale product")	Combination 15 Static Little relevance to public policy High value for research System requires support ("wholesale product")	Combination 16 Static Little relevance to public policy Limited value for research System requires support ("wholesale product")	Little
	High	Limited	High	Limited	
	VALUE FOR RESEARCH				

Table 2

*Intended as analogy, not as marketing term.

5. Balance Between Need for Standards and Flexibility for Creativity

The transition period we are now experiencing will continue for sometime and suggests a need to strike a balance between the need for standards and the need for flexibility for creativity in adapting technology to information functions. The taxonomy outlined above only begins to document the complexity of factors that contribute toward the development of standards. Over-zealous application of standards will stifle innovation and effective use of technology.

6. Impact of Limitations on Current Scope of Depository Library Program

Exclusion of government information in electronic formats from the GPO depository program seriously restricts the scope and effectiveness of that program. As long as electronic information is excluded from the depository program, libraries must use a combination of other sources to secure it for users; for example, from commercial sources, directly from the federal source agency, from organizations such as the Inter-University Consortium for Political and Social Science Research, etc. Increasingly, libraries are expected to meet user needs that cannot be met by reliance on the Depository Library Program.

7. Advantages of Government Information in Electronic Format

Government information in electronic format suggests some advantages for government, libraries, and users:

For government:
- more timely and efficient information collection, storage, and internal use
- elimination of the expense of printing and mailing paper reports

For libraries:
- access in a more timely manner
- ability to manipulate large quantities of information in a more efficient and effective manner
- opportunity to offer new services

For users:
- all of the above, plus
- ability to customize (reformat, rearrange, etc.) information for individual requirements
- opens channels to information previously inaccessible to handicapped or home-bound users
- increases availability for all users by making it more convenient, accessible from home or office

8. Disadvantages of Government Information in Electronic Format

Government information in electronic format suggests some disadvantages for government, libraries, and users:

For government:
- the cost of making the transition from current to electronic systems and the question of how to finance
- the potential loss of an intellectual audit trail, for example, issues involved in archiving data files, determining what is an appropriate historical chronology of information, archiving snapshots of the sequence or editions of data, etc.

For libraries:
- additional (new) costs of equipment and training to be in a position to receive and service electronic information in an unknown variety of formats
- raises questions of appropriate roles/turf with academic/institutional computing centers, among departments on campus or within the institution, and within the library
- also raises issue of how the services will be paid for -- by institution/library or by user
- the responsibility of the library in training people to use the files
- what about service responsibilities of depository libraries to users beyond the immediate institutional clients — that is, the general public
- loss of face-to-face contact with users requires new skills for librarians to work online with patrons
- difficulty of adequately supporting new services -- such as custom service/analysis of information provided by staff with special subject skills -- without degradation of current services

For users:
- possible barriers imposed on users as more information is available only in electronic form: the cost of access to electronic files, the availability of equipment to use the files, and the requirement for some understanding and ability to tap into an electronic file.

9. Requirement for Unrestricted Access to Information

Unrestricted access to and dissemination of unclassified information collected or provided by the Federal Government is fundamental to a democratic society and this principle must be recognized in any consideration of policies for government information in electronic format.

INVENTORY OF TASKS FOR THE TASK FORCE

The following steps are underway or planned as intital activity for the task force.

JCP Proposals

To encourage the design and implementation of pilot projects that will provide a useful test of the economic feasibility of the provision of electronic government information to depository libraries, the task force has been asked to meet with the JCP Ad Hoc Committee to discuss: 1.) evaluation criteria for selection of libraries to participate in pilot projects and, 2.) an evaluation design that will provide a useful measurement of the impact of the pilot projects from the point of view of libraries.

Task 1.
What minimal equipment, skills, and other requirements are necessary for libraries to participate in the pilot projects? Are there different levels of service for electronic information? If so, what are they and what is the level appropriate for the depository library program? What would be required to offer the basic (plain vanilla) level of service for government information in electronic format? Should the pilot projects be structured in a manner that would test more than one level of service? If so, are there characteristics, requirements, or experience the library should have in order to offer the services as part of a pilot project? How could the pilot projects best serve a geographically dispersed population? Should central or regional nodes of information be tested as a model for providing government information in electronic format on-demand?

Task 2.
How should the pilot projects be evaluated? What information will be necessary in order to assess the economic feasibility of the program? Who should be involved in the evaluation? What is needed from the evaluation to determine if the pilot projects contribute positively to the effectiveness and economics of the creation, delivery, bibliographic access, level of mediation, level of accessibility to government information, and quality and openness of access.

Budgeting Mechanisms and Models

Task 3.
An examination of budget mechanisms that have supported the statutory requirement and the historical practice of providing all citizens with free access to depository collections. How do we measure current library costs to provide this service? How will costs shift? What cost substitutions could be anticipated? Will libraries recover some costs from users? How will libraries pay for access by the citizenry -- e.g. users who are beyond the primary constituency of the library? Are there budget models that provide support for library provision of comparable services for government information in electronic formats?

Scholarly Communication and Access to Government Information

Changing technology and government policies are influencing the way in which scholars acquire information, conduct research, and communicate the results of their research with one another and others.

Task 4.
What research requires access to government information? Is government information used in some way that is different from other sources of data? Is the trend toward electronic formats for the storing and dissemination of government information generally considered a positive move for researchers? Is any part of the scholarly community restricted in access to this material? If so how, and what steps could be taken by the government, ARL, and/or libraries to ameliorate obstacles to access to government information in electronic format?

Local Information Policies.

For libraries to be active participants in the provision of electronic information services, there needs to be a better understanding and influence over who develops and implements campus or institutional information policies.

Task 5.
What government information is already available on campuses in terms of both channels and content? The task force could address what kinds of government information are valuable for research but not necessarily commercially viable. Where have (or will) universities/libraries get the funds to make such files available?

Government Responsibility.

Task 6.
The task force could suggest where the primary responsibilities should be for the following aspects of federal information management: creation, bibliographic control, distribution, and access. The OMB Circular A-130, Management of Federal Information Resources, should be reviewed to gain an understanding of the OMB position regarding government information in electronic format.

Task 7.
The House Committee on Government Operations recently issued a report on electronic collection and dissemination of government information. The task force may wish to consider a response to the Committee conclusions and recommendations.

Assessing the Impact of Changing Government Policies

Task 8.
A strategy for assessing the impact of changing government policy or practices on users of government information may be to construct a series of questions to be asked in looking at any agenda item that should arise - such as: who benefits? does the change enhance access? is there a benefit to research and scholarship? The report from the House Committee on Government Operations (Electronic Collection and Dissemination of Government Information) suggests additional questions along this line.

Interest Among ARL Libraries

Task 9.

The task force should resurvey ARL membership to determine the extent of their interest in light of additional information about the scope, timing and requirements of the JCP pilot projects or other projects that address the electronic delivery of government information.

This report represents the views of the members of the task force. Task force conclusions and recommendations for ARL positions and actions will be reported to the Board in the fall of 1987.

Members of Task Force

Nancy Cline, Pennsylvania State University
Malcolm Getz, Vanderbilt University
Jean Loup, University of Michigan
Barbara von Wahlde, SUNY at Buffalo
Kaye Gapen, University of Wisconsin, Chair

References

1. The Changing System of Scholarly Communication. (Washington, D.C.: Association of Research Libraries, 1986), page 1.

2. Dennis M. Jennings et al, "Computer Networking for Scientists," EDUCOM Bulletin 21: 2-25 (Summer 1986), page 2.

3. U.S. Congress, Office of Technology Assessment, Federal Government Information Technology: Management, Security, and Congressional Oversight, OTA-CIT-297 (Washington, D.C.: Government Printing Office, February 1986), pages 139 - 140.

Appendix 1

CRITERIA FOR EVALUATION OF AGENCY PROPOSALS, LIBRARY PARTICIPATION, AND OUTCOME OF JCP PILOT PROJECTS

DRAFT # 1
October 30, 1986

There are basic equipment and service capabilities that a library needs to demonstrate for participation in the pilot projects. The specifics of the capabilities depend upon the file or files to be included in the test. Until the files and delivery strategy are determined, it is difficult to speak to these specifics. However, in addition to equipment and service capabilities, the task force suggests that interested agencies and libraries be asked to address issues that are identified as fundamental to depository library participation in the delivery of government information in electronic formats. How an agency or library responds to these issues will indicate the extent of awareness of the implications of participation in the test, the degree to which the agency or library is prepared to deliver electronic information products to users, and the potential for conducting a useful evaluation at the conclusion of the pilot.

The following list is this task force's first effort at identifying those fundamental issues. They are divided into four parts: data; data delivery; costs; and miscellaneous.

1. The Data

1.1 Where does the file to be tested fall within the taxonomy of government information as suggested by the task force (see Task Force Report No. 1, pages 6-8)? Are there implications when the file is placed within this context?

1.2 What is the completeness of the file? Is it defined so that its scope, limitations, purpose are clearly understood?

1.3 What is the correlation to any printed information -- is the printed information available elsewhere in the library and elsewhere in the library service area?

1.4 What is the timeliness of the file as provided in the pilot project? Does the file represent an improvement in the timeliness of the data?

1.5 What is the volatility of the file? Is there a systematic plan for archiving data and/or for preserving its format?

1.6 What is the anticipated use of the information in the file?
- Will the availability of the file create an expansion or contraction of use?
- Will it serve more users simultaneously?
- Will it make improvements in access and/or service?
- Does the value change with the format?
- Are there other changing patterns anticipated/seen?

1.7 What is the relationship to other library collection development and/or depository selection patterns? Are there other parts of the collection which relate to this data and would benefit from joint delivery?

1.8 Is the data standardized and/or otherwise compatible with other electronic data delivery paths in place in the library? (This also needs to be addressed as an issue under data delivery.)

1.9 How will the assured level of data reliability impact library access and delivery of the information?

1.10 Is the format appropriate to the anticipated use of the data?

2. DATA DELIVERY

2.1 What is the impact on library services of the indicated reliability and hours of accessibility of the file?

2.2 Will special equipment and/or telecommunications components be needed to receive the data (e.g., is the library linked with major networks?)?

2.3 Special equipment and/or telecommunications needed to deliver the data (e.g., what are the paths to and from local or institutional data centers?)?

2.4 Is there any distinction between access to this data and delivery of the data? Any special issues related to either?

2.5 Will physical plant requirements (extra wiring; phone lines; etc.) be required?

2.6 What is the impact of the format of the data and the distribution medium on the library's ability to provide access and delivery for the information in the file?

2.7 Is added user or staff training required for access/delivery of the data?

2.8 Is there new access/delivery potential?

2.9 Is the data likely to be heavily used and possibly "congestible" in regard to access/delivery?

2.10 How would the file influence the library's relationships with other depository libraries, other libraries, and other institutions in the area?

3. COSTS

3.1 What are the anticipated setup costs (costs incurred before the file can be made available)?

equipment to receive, read, print?
additional staff?
staff training?
costs for physical plant adaptation (extra or remodeled space, re-wiring, cabling, etc.)?

3.2 What are the anticipated operating costs (for the life of the pilot project and beyond if continued)?

institutional overhead costs for grants?

costs associated with new patterns of delivery/or access (e.g., telecommunication costs from source to library, from library to off-site users, etc.)?

3.3 What are the anticipated costs associated with the full life cycle of the file (the costs of sustaining the usefulness of the information for however long it is to be sustained)?

maintenance and/or replacement of equipment?

staff training?

archiving and/or preservation of file?

4. MISCELLANEOUS

4.1 Does the project provide an opportunity to extend the library's services geographically?

4.2 Are there a critical mass and an appropriate mix of libraries necessary to test the economic feasibility of inclusion of the file in the depository program?

4.3 What is the ability of the agency/library to gather necessary cost data for the pilot project?

4.4 How does the project affect the expanding relationship between universities and the private sector to further the mission of higher education?

Appendix 2

Examination of Budget Mechanisms
Draft # 1
October 30, 1986

Access to government information through the depository program (and in addition to it) involves costs. The GOVERNMENT bears a significant part of the costs by publishing and distributing material to the depository libraries. The LIBRARY bears a significant part of the cost in the provision of space, professional and clerical staff assistance, the provision of bibliographic access, reference mediation of the information, the continuing maintenance of the collection, and in an increasing number of instances, the provision of the equipment necessary to read the documents. USERS bear a significant part of the cost as well, in particular, the time and travel associated with locating and using the materials (as well as through the tax dollar).

Over the history of the depository program, each component involved has responded to the costs involved by building the budgets required to maintain the chain of creation, distribution, integrated bibliographic access, physical accessibility, and use. However, even before the impact of technology began to be so strongly felt, the pressures of budget constraints had begun to affect the historical patterns. The impact of technology and the creation of a whole new paradigm of electronic information has begun the acceleration of changes in the patterns and the resulting requirement to adjust budgets.

In regard to electronic government information, then, there are at least two tensions which must continue to be addressed for resolution: (1) the tension between the drive for increased efficiency (for the government agency, the library, and the user) and the maintenance of equitable access to public information; and (2) the tension involved in the cost shifts in the "creation, distribution, and accessibility chain" as technology has an impact on each component of the chain.

It is clearly important that all of the involved parties ask the correct cost questions in order to produce the accurate information upon which will be based a host of future decisions about information products and services. From the perspective of the libraries comprising the Association of Research Libraries, the new paradigm of electronic information (of which government information is a most important part) is posing questions which we are only now beginning to answer. The JCP pilot projects are not only important in themselves, therefore, but also in that they serve as a microcosm of issues which make up a whole new information world.

It is also significant for the research library that its parent institution is in the process of establishing new ties and budget relationships between higher education and research missions; and business, agribusiness, and other parts of the private sector. The growth of university-related research parks is one of the best examples of the mutual benefit which can accrue to higher education and the private sector when cooperation occurs. Libraries, by university mandate and within university policy controls, are more and more closely involved in the support of these mutual endeavors. The provision of private sector information research support has already become the responsibility of

many research libraries within their larger university missions. The fact that the costs and benefits for the private sector and higher education are not mutually exclusive has added yet another layer of complexity to the policy and economic context within which research libraries provide information and service. Certainly, that layer of complexity is present in the provision of government information in electronic form resulting in another important cost element to be considered.

The prospect of the delivery of government information in electronic form through the depository program raises important questions about whose budget will be affected as patterns change: the government agency's, the library's, the user's? Will the costs of the depository program which includes electronic information closely parallel those of print formats? Will the information have relatively the same value as the material in print to the government, to libraries, and to users so that the present mix of support for the print program will support the electronic information?

The answers to such questions depend on the details of the design of a particular file of electronic information and on the policies adopted for implementation of the pilot projects. For example, the Government Printing Office or a federal agency might make a database available on-line at zero or nominal charge to the library or user. The depository library might be responsible for providing documentation on the nature of the database, a guide for its use, the telecommunications associated with using the database, and the electronic device used for access.

In another example, the depository program might make available to its libraries a database on magnetic tape at zero or nominal charge. The library might be responsible for mounting the tape on a local computer, providing suitable access software, and providing the computer cycles for accessing the database. A user might be responsible for the cost of printing or downloading to other private media.

In a third example, a federal agency may support digitizing equipment, the agency and the library pay for the provision of the information to be digitized, and the library and the researcher pay for the equipment required to read the electronic information.

These three examples make clear that the nature of costs to the government, the library, and the user will differ markedly for different electronic information products. An important goal in the pilot projects is an examination of Federal agency and library budget mechanisms that have supported the statutory requirement of the agency, the depository library program, and the library. Questions which need to be asked and answered include:

* How do we measure current agency costs for the information file? What are the components of the costs for the agency?

* How do we measure current library costs for the further distribution and storage of the government information? What are the components of costs for the library?

* Do cost savings occur for either the agency or the library in the creation, distribution, and accessibility chain for electronic information?

* Will costs shift from the agency to the library, or vice versa?

* Will costs increase for both the agency and the library, but the public benefit of information in a new format balance the cost increase?

* Can we anticipate cost substitutions within an agency or library budget so that present budgets can be reallocated and no new budget required?

* Can we anticipate additional costs and, if they exist, are they short-term over the implementation of the new information format, or are they long-term over the life of the information?

* What is the relationship of cost to the variety of possible formats? For example, how graphic images are electronically captured and transmitted (in particular, graphic images that are part of a text file) will have a significant impact on the cost of effective delivery.

* Which telecommunication networks and/or bibliographic utilities are important to the creation and distribution of the electronic information and what are the anticipated costs associated with present and future use?

Examination of these various cost issues would occur for at least three stages: (1) set-up costs; (2) recurring/continuing costs; and (3) life cycle costs. Components will include costs related to equipment needs (including initial costs, maintenance, amortization and replacement, and so forth); telecommunications requirements; the added or different use of computing already in place in the library or the parent body; any necessary added space; physical plant renovation for electrical wiring or computer cabling; staff involvement in the integration of the new formats into collection development, bibliographic access, information mediation, library instruction, and collection preservation functions; the costs inherent in bringing together text databases, numerical databases, graphics databases, and bibliographic control databases in an expanded form of information delivery; the cost of new and more powerful information manipulation and delivery possibilities -- i.e., the expanded user patterns which can result from electronic formats; and the relationship of all of these elements to the whole context of the information taxonomy and the practical and policy concerns implicit therein.

The first draft of elements forming criteria for evaluating proposals and projects results begin to address these cost concerns.

Appendix 3

Copy of Survey Distributed to Directors of ARL Libraries
October 10, 1986

TO: Directors of ARL Libraries
FROM: Kaye Gapen, Chair
ARL Task Force on Government Information in Electronic Format

SUBJECT: Request for Comment

The Task Force on Government Information in Electronic Format requests a response from those of you with experience in providing library services for information in electronic formats.

As you know, the Congressional Joint Committee on Printing (JCP) has established an Ad Hoc Committee to advise them on pilot projects to test the economic feasibility of providing depository libraries with government information in electronic format. Our task force (as well as representatives of ALA) has been invited to meet with the Ad Hoc Committee for the purpose of providing advice on criteria for two activities associated with the pilot projects: the identification of libraries to participate as test sites in pilot projects and the evaluation of pilot projects. We also have been asked to indicate if ARL would be willing to go with JCP to private foundations and to manufacturers of equipment to seek funding or equipment that would assist depository libraries to participate in the pilot projects.

So that the criteria and guidelines we offer to the Ad Hoc Committee have a basis in reality, we encourage those of you with relevant experience to comment on any or all of the topics we have been asked to address.

We are particularly concerned with how we suggest JCP identify libraries that have the potential for making the experiment a success. A significant part of the responsibility for assessing the feasibility of depository library access to electronic information is the readiness of the library to deliver such services to users. We seek your help in defining the characteristics of a library that indicate the potential for success.

Attached for your information is a list of the files the Ad Hoc Committee will consider for the pilot projects. We have been advised that the pilot projects probably will include a mix of bibliographic, numeric and textual electronic files. It has not been determined what the format or distribution arrangement for any of these files might be. It appears likely however, that three different media may be tested: online, optical disks (including CD-Rom), and magnetic media such as diskettes or tapes.

The attached questionnaire identifies several matters we would like you to consider. However, do not limit yourself to these questions if there are other related matters you wish to address. Please respond in whatever manner is most convenient — on the questionnaire or separately. Send written comments to the ARL Office (by mail or ALANET), or call me or any member of the task force to discuss the matter.

We will meet with the JCP Ad Hoc Committee on October 30. We realize the time frame for you to respond is short, and we invite you to seek us out at the upcoming ARL Membership Meeting to discuss this in person. Also, comments received after October 30 will be useful for further task force work. Thank you for your assistance.

TASK FORCE ON GOVERNMENT INFORMATION IN ELECTRONIC FORMAT

Established by the ARL Board in April 1986, the task force was asked to address issues raised when considering library access to government information in electronic formats, including the encouragement of dissemination of electronic information to depository libraries.

Members of the Task Force

ALANET mailboxes are indicated for each member. An ALANET message may be sent to the entire task force by using the code TFGIEF.

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Request for Comment
From the ARL Task Force on Government Information in Electronic Format

Library _____

Name of person responding_____

Phone #_____

Please comment on as many of the following questions as are relevant to your library.

1. Anticipated costs for electronic information delivery.

How electronic information delivery is financed will influence the ultimate goal of making the information available to the public. Dimensions to the question of financing electronic information delivery include identification of costs to be borne by the Federal Government, costs to be borne by the Depository Library, and costs to be borne by the user of the information.

The task force proposes to address the matter by considering the following categories of costs for the Federal Government, the Depository Library, and the user:

a. the setup costs — the costs to be incurred before the information can be made available;

b. the operating costs — the annual costs essential to sustaining the service;

c. the full life cycle costs -- the costs of sustaining the usefulness of the information for however long it is to be sustained.

Please comment on the approach we propose to this question and/or suggest additional categories of costs that should be considered.

2. Budget models for supporting electronic formats in library collections.

To what extent does your library budget now support access to electronic files and how do you categorize this expense in your budget?

3. Patterns of use of electronic information.

Is there a pattern to the use of electronic data within your institution (by certain departments, kind of users, other)? Does the pattern vary by type of data in the file (bibliographic, numeric, textual)?

4. Identification of basic electronic information delivery capabilities.

Is there a way to describe what capabilities are required for a library to offer basic (minimal, not extensive) service to provide access to electronic information?

5. Access to wide-area networks.

Note to which of the following wide-area networks the library has access either directly or through another institutional office. If there is institutional access only, characterize your enthusiasm for the library linking with the network. Also note any preference for using one or more of these networks as a way to receive government information in electronic format.

NSFNet (part of the NSF supercomputer initiative) OR any of the various component networks such as ARPANET, SDSC, JVNC, NCAR)

___yes ___no comments:

MFENET (DOE's magnetic fusion energy research network)

___yes ___no comments:

BITNET (Operated by EDUCOM)

___yes ___no comments:

OCLC

___yes ___no comments:

RLG

___yes ___no comments:

other?(describe):

Use reverse side for additional comments.

Responses received by October 30 will be helpful for task force discussions with the JCP Ad Hoc Committee. Comments received after that date will be used for future work of the task force.

Mail questionnaire to the ARL Office, 1527 New Hampshire Ave., N.W., Washington, D.C. 20036, OR, contact a member of the task force directly. Task Force members are listed on the reverse side of the cover memorandum.

APPENDIX B

TASK FORCE ON GOVERNMENT INFORMATION IN ELECTRONIC FORMAT

Report No. 2

Members of the Task Force

Nancy Cline, Pennsylvania State University
Malcolm Getz, Vanderbilt University
Jean Loup, University of Michigan
Barbara von Wahlde, SUNY at Buffalo
Kaye Gapen, Chair, University of Wisconsin

April 21, 1987

Task Force on Government Information
in Electronic Format*

Report No. 2

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*The task force has focused on practice and policies associated with U.S. Government information.

I. INTRODUCTION

The first report of the task force (October 1986) set the stage for consideration of the most important elements that characterize the environment of the research library and the distribution and use of government information in electronic formats. We noted that the issues of government information in electronic formats provide a microcosm of the larger set of concerns about technology which face scholars, researchers, higher education, libraries, citizens, government, and the private sector.

Report No. 1 was widely distributed and received generally positive responses. Very helpful comments were received on the draft 'Criteria for Evaluation of Agency Proposals, Library Participation, and Outcome of JCP Pilot Projects,' and the draft 'Examination of Budget Mechanisms' (Appendices 1 and 2 respectively). A revision of these two pieces will be prepared with these comments in mind and included in the final task force report. The taxonomy of government information in electronic format was particularly well received by commentors. It did, however, prompt questions about the practical application of the concept. The taxonomy is incorporated into this report and we hope its envisioned use will become more apparent in this context.

Among all of the policies and concerns the task force has explored, one major theme has influenced our work since October and thus is the focus of this report. That is, the extent to which government information in electronic format (just like other electronic products being incorporated into library collections) requires new kinds of value-added features (hardware, software, and human assistance) and our expectation of the limited extent to which these value-added features will be provided by the U.S. Government.

We are optimistic that eventually, some electronic products containing government information will be incorporated into the Depository Library Program; the extent of value-added or user friendly features, who will prepare them, and how they will be provided, remain unclear. We assume commercial sector information businesses will continue to provide some government files with varying degrees of sophisticated value-added capabilities and that many of these will be of great benefit to libraries and library users. However, it also appears that large amounts of U.S. Government information in electronic formats will never be made available in "retail form" from the government agency -- i.e., it may only be made available as raw data or information without value-added accessing mechanisms.

If this general assessment about the availability of government information in electronic formats holds true in experience, there will be implications for government, libraries, and users. This report addresses those implications with a particular focus on how research libraries might be affected.

Therefore, much of the work of the task force has involved building a framework which would enable us to understand -- philosophically, technically, and budgetarily -- the patterns that exist for government information today, and the shift of those patterns resulting from the introduction of government information in electronic formats. Report No. 2 sets the stage for discussion of these issues at the May 1987 ARL program, the tenor of which will influence the final report of the task force.

Report No. 2 begins with a review of the key policy issues that relate t government information (pp. B5-7). There are significant public and social policy choices underlying the turmoil associated with government information. The policy issues have complex interrelationships and the task force has attempted to provide just enough of a summary to illustrate the contentious environment within which librarians must participate in order to influence the outcome and clarify the partnership role of libraries with the U.S. Government in providing government information to the public.

Following the summary of policy issues, we present five hypothetical scenarios that illustrate different approaches which may develop to disseminate government information in electronic format and suggest consideration of the ramifications of the several possible options/choices in a series of questions (pp. B10-12). To anticipate the implications of any real proposal for dissemination, we suggest the use of a value-added model that provides for analysis of the specific elements of an information system in terms of the cost of each enhancement that may be added by either the government agency, the library, the commercial sector, or the user (pp. B14-17). The value-added model complements the taxonomy of government information, introduced in Report No. 1 and incorporated again into this analysis (pp. B18-19). Together, the value-added model and the taxonomy may assist the government and libraries in understanding and planning for the trade-offs between adding values and managing the concomitant shifts in who pays what portion of the costs of providing public access to government information.

The report summarizes assumptions that the task force made about general trends in electronic information (pp. B20-21) and then illustrates them by considering the impact of government information in electronic format on resource sharing, on the Depository Library Program, and on research libraries and their staff (pp. B23-24). Possible changes in the Depository Library Program, based on these assumptions, are suggested (pp. B24-25). We then return to the consideration of government information policy and offer some preliminary ideas about what ARL might do to exert a positive influence on this evolving set of issues (pp. B26-27).

In addition to these main sections, this report contains:

Planning Checklist—Appendix 1 (pp. B28-29)
A brief summary of value and cost considerations for library managers making choices whether to acquire new electronic products.

Checklist of Laws and Regulations--Appendix 2 (pp. B30-32)
Brief descriptions of the laws and regulations frequently mentioned in discussions of access to U.S. Government information.

Questionnaire Response Summary—Appendix 3 (pp. B33-37)
A summary of responses to the questionnaire distributed by the Task Force in 1986 to gather information for the work of the task force including a request to comment on the criteria and guidelines for participation in the JCP/GPO pilot projects.

Discussion Points on Government Information in Electronic Format--Appendix 4 (pp. B38-41)
An executive summary of these issues which might be used in discussion with campus faculty members and/or institutional officers.

II. FEDERAL POLICIES AFFECTING ACCESS TO GOVERNMENT INFORMATION

Federal policies affecting public access to government information arise from a wide variety of laws and regulations some of which do not offer clear guidance when addressing issues associated with electronic information. Pressures resulting from pervasive and profound economic, political, and technological trends have exacerbated longstanding tensions inherent in these policies. The following summary is not comprehensive but is intended to highlight the basic elements of this debate. (A checklist of laws and regulations frequently mentioned in discussion of government information appears in Appendix 2 on pp. B30-32.) Our purpose is to illustrate the turbulent environment within which depository libraries attempt to fulfill their mission of serving as geographically convenient, politically neutral, and no-fee sources of government information for the public.

Historically, there has been Federal support for education and libraries in general. The government of the United States is founded on the premise that there will be an informed electorate, with educated, responsible citizens participating in their governance ("popular sovereignty"). The need to inform the public is the foundation of legislation such as Title 44 of the U.S. Code (that provides for the Government Printing Office Sales Program and the Depository Library Program) and also other information distribution programs of federal agencies.

The Freedom of Information Act is based on the presumption that the government and information of the government belong to the people and the same reasoning underlies the Copyright Law prohibition of copyright of U.S. Government documents. Public access to information produced by government agencies has been a long standing element in support of American public education and the economy; and libraries have played a key role in the delivery of such information to the public. In addition, Federal government agencies, increasingly over the last fifty years, turn to universities and other research organizations to conduct research in support of the missions of those agencies. Contracts and grants have cemented the partnership between the government and research institutions in mutual support of an educated citizenry, an improved economy, and a better society.

Trends

On a number of fronts and in a seemingly endless variety of ways, these basic premises have been challenged. The following trends have had a particularly negative impact on education, libraries, and public access to government information.

- Privatization of Government Functions

  A major policy goal of the Reagan Administration is to shrink government, and one of the strategies employed is privatization or assigning government function to the private sector. Privatization of information programs that had previously been an integral part of government agency programs leads to undesirable consequences such as: increased prices for services that lead to classes of information-rich and information-poor library users; elimination of limited-use reports or service aspects of a program not supportable when subjected to commercial market-driven product design; the possibility of private, self-interested influence over the delivery of public information; and exertion of copyright or copyright-like control over public information.

- Reduction of Federal Agency Budgets

  Another strategy for shrinking the non-defense agencies of government has been to reduce their budgets. This has had a profound impact on information programs and services of agencies as well as on the availability of government information in libraries. It has also led to unusual arrangements between federal agencies and commercial information companies to jointly develop agency electronic information systems - arrangements that sometimes lead to undesirable agreements that give exclusive control of public information to private organizations.

- Over-zealous Protection of Government Information

  A penchant for secrecy has led to overclassification of government information, efforts by the Defense and intelligence community to impose controls on unclassified information, and pollution of information sources with an active disinformation campaign intended to mislead all except those with a "need to know."

Areas of Contention

Following are some basic areas of contention, where policy is unclear.

- The extent to which tax dollars should fully support the collection and active dissemination of government information and when user fees to recover some of the costs of these activities are acceptable.

- How to define the balance between encouraging commercial entrepreneurs to enter the market with government information products based on government information and maintaining government responsibilities to provide information services.

- How to determine when our national interests are best served by restricting access to some information.

Needs

Needed, and yet absent from the current picture is resolution of the following matters:

- A determination of the characteristics of government information that are vital to accomplishing the goals of an educated citizenry, an informed electorate, and serving society at large, and that therefore warrant an active dissemination program financed largely by the taxpayer.

- A strategy to assure equitable public access to government information in electronic formats.

- A strategy to assure electronic government information will be effectively archived to preserve the necessary records of government.

- Clarification of Congressional intent regarding public access laws vis-à-vis electronic formats.

- Clarification of responsibilities within the government for oversight and management of issues associated with government information. Presently the debate is entangled with tensions between the legislative and executive branches of government (Joint Committee on Printing/Office of Management and Budget), and further complicated by the convergence of automated data processing technology with publishing technology which collide with regulations, procedures, and Congressional Committee jurisdictions.

Proposals for ARL Policy Positions

The task force has considered what ARL's positions should be regarding government information policy. The following proposals are being considered and discussion at the ARL program meeting and subsequent reactions will guide the task force in preparing recommendations for the ARL Board.

Proposal 1: Copyright should not be applied to U.S. Government information.

The current policy in the Copyright Act against copyright of U.S. Government information is sound and should not be changed. Any policies or practices that allow a Federal agency or a private organization to exert exclusive rights or other kinds of proprietary controls over government information in any format should be opposed.

Proposal 2: Electronic government information ought to be available to everyone in its 'wholesale' form at low cost.

Most government databases should be available to the public at simple reproduction cost. Duplicate copies of tapes with no interface can be used by research libraries or other intermediaries to make the information available to the research community. This philosophy ensures that the prices of final products reflects the value added in the development of end user products and nothing more, and prevents any monopoly control over government information. For example, the full text of Patents, MedLine, SEC 10K reports, etc. should all be available on tape to anyone, at the cost of tape reproduction.

Proposal 3: Entrepreneurship is welcome and should be encouraged.

Entrepreneurs may, using tape databases as inputs, produce many information products with diverse formats, interfaces, and prices; for example, commercial databases such as the Federal Register Abstracts. New information products based on government information should be encouraged.

Proposal 4: Electronic products should be offered to Depository Libraries.

Certain electronic information products of broad public interest should be distributed through the Depository Library Program. These products should be oriented toward easy use by end users with convenient interfaces. Examples are the Code of Federal Regulations on CD-Rom or the status of bills and an index to legislation on-line.

Proposal 5: Depository Libraries should be allowed to recover costs from users for some services.

A Depository Library should be allowed to recover from users costs that were incurred in servicing depository electronic information products. Out of pocket costs for telecommunications or computer time for access to electronic information should not be presumed to be encompassed in the Depository Library's financial obligation as part of the Depository Program. For example, charges for costs for time used on local computers or for duplicating electronic products should be allowed.

The task force has considered but not resolved the question of depository libraries recovering costs associated with the acquisition or development of electronic retrieval software used with a depository product.

On the one hand, if such an expense or intensity of effort is voluntarily undertaken, it presumably meets a local priority and falls within the institutional mission. For example, many depository libraries subscribe to expensive printed indexes that enhance retrieval of depository material based on the information needs of the library's primary audience as well as the needs of the general public using the depository collection. There are private institutions in the Depository Library Program which will probably question the expense of incurring costs on behalf of the program, if the cost did not also support an institutional need as well. This may also be an issue for publicly-supported depository libraries facing financial constraints.

On the other hand, finding a way to encourage and financially support depository libraries to undertake this and other kinds of value-added services ON BEHALF OF the depository system, and other libraries, would be of significant benefit to the program.

The task force particularly invites comments on this matter.

Proposal 6: Federal policy should support the integrity of government electronic databases in a variety of ways.

Where national security is at stake or personal privacy at risk, data should be secure. Important electronic databases will stand as a historic record of our civilization and provision is needed for archiving them. Because electronic data is inherently volatile, special measures may be required to assure that important databases are reliable and unalterable. The deposit of master files should be established as a standard procedure for archiving. Dissemination of electronic government information to numerous decentralized sources, such as a wide variety of libraries and other intermediaries, reduces the risk of intended or inadvertent damage to the integrity of the data.

Proposal 7: The open exchange of public information should be protected.

The open exchange of public information is essential to the progress of our society and access to electronic information ought not to be more restrictive than access to paper products. While there are legitimate needs to classify and protect classified information, excessive secrecy on the part of the U.S. Government should be opposed. Dissemination of government information through libraries should be encouraged. The higher education, research, and library communities should work together to reaffirm their commitment and redefine responsibilities in their partnership with the U.S. Government to make public government information broadly and equitably available.

Proposal 8: Congress should provide funding in support of public access to government information.

Congress should appropriate funds sufficient to allow an agency to take advantage of technology to develop effective information systems not only to serve internal agency information needs but also to carry out its mission to make government information publicly available. The G.P.O. Public Printer and Superintendent of Documents should be funded to develop pilot projects to test electronic products in depository libraries.

Section XI of this report will return to these public policy issues and address possible actions for ARL to consider initiating.

III. SCENARIOS FOR DISSEMINATION OF GOVERNMENT INFORMATION IN ELECTRONIC FORMAT

Since policy concerns and possible agency, legislative, and executive branch approaches are still in great flux, we can deduce that it will take some time for trends and any form of standardization to be established. Even so, it is important to examine possible directions in order to anticipate the magnitude of the possible problems facing us.

The task force review of the proposed Joint Committee on Printing/G.P.O. Pilot Projects, and our discussions with representatives of various government agencies, suggest that there may be quite a number of Federal Government agency approaches to the use of electronic technologies and resulting formats. Hypothetical scenarios have been described to illustrate five possibilities.

While these are certainly not all of the possible scenarios, they do illustrate some of the general approaches which may be taken. There are some immediate "what if" considerations that can be made.

What examples of specific government information files or systems are most plausible for each scenario?

What kinds of electronic information products may best fit each scenario? From the Congress's point of view? From the research library point of view? From the point of view of publishers and other intermediaries (including libraries)? From the users' point of view?

If the Superintendent of Documents had $5 million per year to devote to developing electronic information products for dissemination through the Depository Library Program, how should he or she deploy the resources? If a research library had $25,000 to devote to gathering government information in electronic form, what action might it take?

What Congressional policies should ARL advocate with regard to the development of electronic products that disseminate information produced by government agencies?

The May ARL program is dedicated to explore these and other "what if's". What we hope is clear in each of the scenarios and in the comparison of one scenario to another is that government information is provided with varying levels of "user accessibility mechanisms." While an awkward phrase, the notion of user accessibility mechanisms is significant to the consideration of electronic government information. Clearly, the government agency may produce electronic files with no user accessibility mechanisms, expecting that if those mechanisms are needed, they will be added and paid for by someone else. This is the situation in Scenario One (Limited Government Role).

At the other extreme, the government agency provides full support for an electronic information product that an inexperienced end user can master quickly -- Scenario Four (GPO Provides Full Support). This is more akin to the Depository Library Program as we know it today, in which the government agency creates a retail information product. The depository library is responsible for space and the collection management which makes the government information available. The depository library may even provide expert staff and expensive indexes, but the government agency produces an information product which still arrives more or less user ready.

Scenarios for Dissemination of Government Information in Electronic Format

SCENE ONE: Limited Government Role

Government offers data on tape without charge for use by depository libraries. If accepted on deposit, libraries are responsible for mounting datafiles on local systems, providing access to the data to users, training staff and users in methods for access to data.

Other intermediaries may also acquire data and process it for resale and use by libraries and others. Many intermediaries may compete in distributing the information.

Users are expected to be sophisticated in electronic means of communication. They may have to use programming languages, e.g., Cobol or Pascal, in order to extract needed information or be willing to pay for such service.

Examples: Census of Housing Tract and Block level data
LandSat geographical information

SCENE TWO: Government Agency Manages Dissemination

Agency puts data in a form usable by some libraries and by intermediaries. Each agency acts on its own. Agency may contract with an intermediary for the provision of on-line access, but agency sets standards and provides some financial support for data preparation.

Library may pay hourly usage fees to agency or intermediary for use. Data resides on agency or intermediary computer; use requires telecommunications.

Users may pay fees to the library for the services of the librarian and for telecommunications. Users may have to learn a software package like SAS or Lotus 123 to use numeric information effectively.

Examples: Library of Congress Tape Distribution Service

SCENE THREE: Government Printing Office Acts as Publisher

The Public Printer requires agencies to provide GPO with the raw data, as if in manuscript form. GPO puts the information in a standard format, provides software tools for access or stipulates a generic software tool as user interface. The Public Printer disseminates the electronic information through the Depository Library Program.

GPO may contract with intermediaries for service much as private printers manufacture print products However, the Public Printer remains responsible for price and service.

The Library receives an electronic information product that requires a local system to support it, but the support requirements are standardized and therefore useful for a variety of information products, for example, a personal

computer with a CD-ROM drive and a common software product. Training requirements for librarians are relatively modest.

Users may pay a small fee for use of a personal computer and training modes of access but learn to use a common interface with about as much effort as required to use the Monthly Catalog.

Examples: GPO distributes a CD-ROM version of the Monthly Catalog free to depository libraries.

SCENE FOUR: Government Printing Office Provides Full Support

GPO provides full support for an electronic information product that an inexperienced end user can master quickly. If product is delivered via telecommunication lines, costs are paid by the Government.

The library provides space and manages services for the collection of electronic information products.

Users may use the information without charge even for computer use.

Examples: Congressional Record CD-Rom
Current status of bills before Congress On-line
Federal Register CD-Rom
Patent and Trademark Office CASSIS Index On-line

SCENE FIVE: Data to the Highest Bidder

Government Agency auctions off the right to its data to the highest bidder (via contract, license, or lease), provides exclusive rights to dissemination for an agreement by winner of auction to create a product that is available in every Congressional District. The Agency uses the proceeds to further its vital public mission, say underwriting grants for research in medicine.

The intermediary who wins the auction develops retail products and markets them on a for-profit basis.

The Library must pay the retail price for the electronic information product. It can define the terms of public access to the product much as for any other item in its collection. The number of libraries who choose to acquire the data may be limited by the expense.

Users may face fees per unit of use of the electronic product, fees that reflect the cost of the license to the data as well as rates for telecommunications, local computer time, and librarian services.

Examples: The Securities and Exchange Commission lets an exclusive contract for dissemination of its 10K files.

To use the parlance of the taxonomy (introduced in Report No. 1 and described again on pages 16-17 of this report), Scenario One would be categoried as a "wholesale" information product and Scenario Four would be an example of a "retail" information product.

There is, of course, a wide range between the two extremes. It is a range that can have even more complex approaches than those illustrated here — with complexities which on the surface make it difficult to determine costs and predict their allocation among government agencies, libraries, and users.

IV. KEY CONSIDERATIONS IN PLANNING ACCESS TO ELECTRONIC GOVERNMENT INFORMATION

The task force identified four questions that should be considered by government agencies, or libraries acting as intermediaries, as decisions are made about providing government information in electronic formats. Responses to these questions, when applied to a particular information system, may suggest how access to that system should be paid for -- for example, fully tax supported or partially tax supported with intermediaries and/or users paying part of the costs. The key considerations suggested by the task force are these:

1. What is the public policy significance of the information in the system?

2. What are the values needed and/or added by the creator of the information, the mediator of the information, and the user of the information?

3. What are the relative costs of adding specific values at any point in the information chain (creation, mediation, use) in order to assure that the public's government information needs are met clearly and equitably? And how will the costs of adding these values be distributed among federal and state agencies as well as private organizations?

4. If a shift in costs (among government, libraries, and users) is anticipated when this government information is disseminated in an alternate format, how will this affect the cost of resource sharing among libraries and the ability of the depository library system to support equitable public access?

The task force searched for mechanisms which would support analysis of the costs and values added of such complex and shifting relationships and responsibilities. We have identified a useful model in a recent book by Robert S. Taylor titled Value-Added Processes in Information Systems, Norwood, N.J., Ablex Publishing Corp., c1986. [The value-added model is described in the next section of this report.]

Together, Taylor's value-added model and the taxonomy of government information in electronic forms provide mechanisms to address the four questions described above in relation to any single information system; they may also lead to general conclusions about how access to certain categories of government information should be funded.

V. THE VALUE-ADDED MODEL

In his book Value-Added Processes in Information Systems, Robert S. Taylor develops a model which describes a set of practices that combine to form an information system. In this context an information system is considered greater than any single information source and includes contributions by participating individuals such as a reference librarian and the library user. In fact, within this model any human intermediary (searcher, analyst, evaluator, synthesizer, or interpreter) is part of the system. Taylor describes three basic elements of an information system: the specific processes which add value to items being transmitted; a user or sets of users, who, because they sit in particular environments, have certain problems which establish criteria for judging the utility of the system's output; and a "negotiation space" between system and users, where the system displays its outputs (and the values accumulated through the system) to assist users in making choices.

Taylor defines "value-added activities" in information systems as those processes that produce, enhance, or otherwise strengthen the potential utility of messages in the system. The values that result from these activities — 23 of them -- he classifies into one of six categories: ease of use, noise reduction (selecting relevant and/or filtering out extraneous information), quality, adaptability, time savings, and cost savings. These added values may be either tangible (e.g., formatting or physical accessibility) or intangible (e.g., reliability or closeness to problem). The 23 values, grouped into the six categories appear in chart 1 on page 13; definitions for each are listed on pages 14-15.

The advantages of this model are many, but one that appealed to the task force is that the 23 values are the elements which characterize what transforms a "wholesale" information product into a "retail" information product. Such an assessment provides a basis upon which we may determine to what extent, when electronic products are substituted for print-based products, the current patterns of adding user accessibility values shift among orginator, mediator(s), and users.

Such a model allows an assessment of the presence and quality of the 23 value elements available at each stage of development of the information system — that is, those added by the originating source, by the library or other mediating service, and those added by the user. Intensity of activity in at least some of these 23 areas can result in an information system with user friendly attributes.

A principal feature of the Taylor value-added model lies in its stress on the user and on the needs and dimensions of the information environment as a major element in the design and evaluation of information systems. The fullest application of the model requires that information systems be perceived as more than question-answering systems — that, in fact, they are problem-addressing, problem-clarifying, or problem-attacking systems. This strikes the task force as especially pertinent for making assessments of systems intended to meet the public interest in the use of government information.

The model is not dependent on the efficiency of a particular technology and therefore may measure how effectively the combination of technology and human expertise is in providing information where it is needed and within the environment where it will be used. This aspect of the model also seems particularly well suited to the concerns with which we are dealing.

While some of the values Taylor defines may seem esoteric or clouded with jargon, nevertheless, the elements do describe fairly specific activities which can be

distinguished from one another and which could be evaluated qualitatively and in terms of cost analysis.

Chart 1

User Criteria and Values Added

This chart displays Taylor's six categories of criteria considered by users in selecting and evaluating an information system (left column), links the 23 values with each category as 'interfaces' (center column), and provides a few examples to illustrate the kind of process identified with each value.

User Criteria of Choice	Interface (Values Added)	System (Value-added Processes: Examples)
Ease of Use	Browsing	Alphabetizing
	Formatting	Highlighting important terms
	Interfacing I (Mediation)	
	Interfacing II (Orientation)	
	Ordering	
	Physical Accessibility	
Noise Reduction	Access I (Item identification)	Indexing
	Access II (Subject description)	Vocabulary Control
	Access III (Subject summary)	Filtering
	Linkage	
	Precision	
	Selectivity	
Quality	Accuracy	Quality control
	Comprehensiveness	Editing
	Currency	Updating
	Reliability	Analyzing and comparing data
	Validity	
Adaptability	Closeness to problem	Provision of data manipulation capabilities
	Flexibility	Ranking output for relevance
	Simplicity	
	Stimulatory	
Time-Saving	Response Speed	Reduction of processing time
Cost-Saving	Cost-saving	Lower connect-time price

Chart 2

Taylor's Definitions of Values Added

Following are brief definitions of the values identified by Robert S. Taylor in his book titled Value-Added Processes in Information Systems, Norwood, N.J., Ablex Publishing Co., 1986. They are alphabetized. The expression in parentheses following the value name indicates one of six categories Taylor suggests that users consider in choosing an information system.

Access (Noise Reduction): the values added by the intellectual technologies that provide the systematic meanings, based on subject matter, of narrowing the information universe to a set of data and information which have some probability of containing material that is wanted or needed. Different kinds of intellectual access provide different sets of the subject universe.

Access I (Noise Reduction): the value achieved by the identification of any information chunk or discrete piece of data by systematic physical description and location information.

Access II (Noise Reduction): the provision of a subject description through access points such as index terms, descriptors, and names.

Access III (Noise Reduction): the result of processes which reduce or compress large amounts of information into compact items, such as executive summaries, abstracts, terse conclusions, chemical structure diagrams, mathematical formulae, graphs, or charts.

Accuracy (Quality): the value added by system processes that assures error-free transfer of data and information as it flows through the system and is eventually displayed to a client.

Browsing (Ease of Use): the capability of a system to allow a client to scan an information neighborhood, with the probability that the client will serendipitously find information of value.

Closeness to Problem (Adaptability): the value added by the activities of the system, usually through human intervention, to meet the specific needs of a person in a particular environment with a particular problem; this implies knowledge of that person's style, bias, idiosyncracies, and sophistication, as well as the politics and constraints of the context.

Comprehensiveness (Quality): value added by the completeness of coverage of a particular subject or of a particular form of information.

Cost savings: the value achieved by conscious system design and operating decisions that save dollars for the client.

Currency (Quality): the value added (a) by the recency of the data acquired by the system; and (b) by the capability of the system to reflect current modes of thinking in its structure, organization, and access vocabularies.

Flexibility (Adaptability): the capability of a system to provide a variety of ways and approaches of working dynamically with the data/information in a file.

Formatting (Ease of Use): the physical presentation and arrangement of data/information in ways that allow more efficient scanning and hence extraction of items of interest from the store.

Interfacing (Ease of Use): the capability of the system to interpret itself to users.

Interfacing I (Mediation) (Ease of Use): the means used to assist users in getting answers from the system.

Interfacing II (Orienting) (Ease of Use): the means used to help users understand and to gain experience with the system and its complexities.

Linkage (Noise Reduction): the value added by providing pointers and links to items, sources, and systems external to the system in use, thus expanding the client's information options.

Ordering (Ease of Use): the value added by initially dividing or organizing a body of subject matter by some form of gross ordering, such as alphabetization, or large groupings.

Physical Accessibility (Ease of Use): the processes of making access to information stores easier in a physical sense.

Precision (Noise Reduction): the capability of a system to aid users in finding exactly what they want, by providing signals on such attributes as language, data aggregation, sophistication level, or by ranking output.

Reliability (Quality): the value added by the trust a system inspires in its clients by its consistency of quality performance over time.

Selectivity (Noise Reduction): the value added when choices are made at the input point of the system, choices based on the appropriateness and merit of information chunks to the client population served.

Simplicity (Adaptability): the value achieved by presenting the most clear and lucid (explanation, data, hypothesis, or method) among several within quality and validity limits; not to be confused with simplistic.

Stimulatory (Adaptability): those activities of an information system that may not be directly supportive of its primary mission, but which assume importance in establishing a presence in the community or organization served and which encourage use of the system and/or its staff expertise.

Time savings: the perceived value of a system based on the speed of its response time.

Validity (Quality): the value added when the system provides signals about the degree to which data or information presented to users can be judged as sound.

VI. TAXONOMY OF GOVERNMENT INFORMATION IN ELECTRONIC FORMATS

Issues raised when considering public availability and use of U.S. Government information in electronic format cannot be discussed adequately in generalities. Identification of a taxonomy or classification of potential electronic information systems or products would contribute to policy discussions that need to take place within government and within libraries and elsewhere. For example, systems might be classified on the basis of the following four dimensions.

A. Volatility

Some systems are highly volatile — dynamic and highly time sensitive; others are static.

B. Public Policy Relevance

Some systems convey information that is highly relevant to consideration of important public policies and thus are of broad public significance; others have information of little policy relevance and are of interest only to a specialized audience.

C. Value to Research

Some systems convey information that is highly significant for research; others convey information of limited research value.

D. State of System Development

Some systems could be compared to wholesale products, requiring significant added hardware and software support before end-users may make use of it; others are more like retail products, fully packaged and presented for end-users.

These four dimensions are described in terms of two extreme points on a spectrum. In reality, consideration of the characteristics of a specific system following such a classification will fall anywhere between the two extremes. The taxonomy is not intended as an absolute measure for policy making but rather is put forward to acknowledge that not all government information in electronic format is the same and to identify some obvious categories of systems that will encourage policy discussions (within government and within libraries) to move from generalities to specifics.

The relatively simple taxonomy outlined here is illustrated in a matrix with sixteen different combinations of characteristics of government information systems. Each combination, or different niche, may suggest different ways to address policy issues associated with public access to the system and dissemination of the information. The taxonomy could be subdivided further into files that are textual as opposed to other kinds of information as well as by the anticipated extent of public audience for the information, should these kinds of characteristics, or others, need to be considered in making policy decisions.

Taxonomy of Government Information Systems

STATE OF SYSTEM DEVELOPMENT	VOLATILITY: Dynamic		VOLATILITY: Static		RELEVANCE TO PUBLIC POLICY
Retail*	Combination 1 Dynamic High relevance to public policy High value for research System ready for end-user ("retail product")	Combination 2 Dynamic High relevance to public policy Limited value for research System ready for end-user ("retail product")	Combination 3 Static High relevance to public policy High value for research System ready for end-user ("retail product")	Combination 4 Static High relevance to public policy Limited value for research System ready for end-user ("retail product")	High
Retail*	Combination 5 Dynamic Little relevance to public policy High value for research System ready for end-user ("retail product")	Combination 6 Dynamic Little relevance to public policy Limited value for research System ready for end-user ("retail product")	Combination 7 Static Little relevance to public policy High value for research System ready for end-user ("retail product")	Combination 8 Static Little relevance to public policy Limited value for research System ready for end-user ("retail product")	Little
Wholesale*	Combination 9 Dynamic High relevance to public policy High value for research System requires support ("wholesale product")	Combination 10 Dynamic High relevance to public policy Limited value for research System requires support ("wholesale product")	Combination 11 Static High relevance to public policy High value for research System requires support ("wholesale product")	Combination 12 Static High relevance to public policy Limited value for research System requires support ("wholesale product")	High
Wholesale*	Combination 13 Dynamic Little relevance to public policy High value for research System requires support ("wholesale product")	Combination 14 Dynamic Little relevance to public policy Limited value for research System requires support ("wholesale product")	Combination 15 Static Little relevance to public policy High value for research System requires support ("wholesale product")	Combination 16 Static Little relevance to public policy Limited value for research System requires support ("wholesale product")	Little
	High	Limited	High	Limited	

VALUE FOR RESEARCH

*Intended as analogy, not as marketing term.

VII. TRENDS RELATED TO ELECTRONIC INFORMATION

The task force found it useful to lay a groundwork of assumptions regarding trends related to electronic information and libraries to forecast general directions which might affect library staffing skills, costs, service policies, etc. You will note that some of them are drawn from, or refer to, the value-added model described in Section V.

1. Information will be produced in increasingly diverse and technology-focused formats. Until standards evolve, the technology will continue to vary from information product to information product.

2. Information needs will continue to exist along a continuum of expertise, as will information-finding skills. At the same time that researchers are becoming more interdisciplinary with a need for access to broader sets of information, databases are becoming more specific and diverse in their construction and requirements for technological support.

3. As information sources become more complex, there will be an increasing need for libraries to take a twofold approach to (1) add those values which make self-help and ease of use possible and (2) provide staff resources for more intensive mediation and synthesis.

4. With the growth of electronic information and the availability of high speed telecommunications networks, the role of a library will increasingly expand from functioning as a repository of information sources to being a gateway, providing a variety of communication channels to enable a user to gain access to data and information not owned by the home library but made available through library channels.

5. Information analysis and mediation skills for library staff will grow in importance. The importance of these skills exist apart from electronic information but the impact of technology makes users more dependent on acquiring or seeking assistance from individuals with such expertise. In this sense, the librarian becomes an information technologist, understanding and working with a variety of format and telecommunication technologies. There is a complex set of interrelationships between the information and the equipment with as many configurations as there are sets of hardware and software. These skills and the librarians who possess them become a new and critical resource.

6. The librarian will increasingly be expected to add value to all forms of information by providing integrated access through mediation between the information and the user (to make user choices easier, to clarify situations, to provide new structures, to enhance the choices of finding quality information) and the research library will increasingly be expected to provide staff in sufficient numbers and with necessary backgrounds and skills to participate in user problem-solving (this may merge into staff problem-solving on behalf of users).

This movement will occur for at least two reasons. First, as information systems become more diverse and increase in complexity, synthesis and mediation to assist the user will become more useful and important. Second, with electronic information and telecommunications, quality, stability, and other higher intensity values may not be added to the information at the point of creation. The librarian in the mediating role will identify the need and begin to add those values to information systems, or aid users with the addition of those values.

7. There will be an increased movement of professional library staff resources into those value-added activities described by Taylor as Access II and Access III, including the provision of integrated bibliographic access to a broad wealth of information regardless of format, with more intensive mediation and synthesis by librarians working with users. Reference service will move toward consultation, on a selective basis, with the librarian working in formal partnership with users to bring their joint expertise in subject, library, and information to bear on a particular problem to produce an end decision, a set of information, or a scholarly product.

8. Physical access to electronic information is different from physical access to print-based information and that will result in delivery mechanisms which will be more technologically driven. It will also lead to resource sharing catalogs which will be characterized by different levels of comprehension of coverage and scope of bibliographic description. The research library catalog, for example, may serve as the focus for a statewide or regional union catalog containing selective references to a variety of electronic information resources available in the research library or elsewhere. That union catalog will also have pointers to other selective statewide or regional catalogs. Likewise, the research library might transmit the text, numeric data, etc., thus distributing the information itself.

9. Within the bimodal environment of a library providing access to document-based and electronic information-based resources, philosophies of resource sharing programs will probably have to be reexamined. Efforts might be made to define the values added at each step in the sharing of resources among multitype libraries. It is likely that the role and responsibility of the research librarian, the research library, and institutional computational staff will become more pronounced and make linkages with statewide and regional telecommunications systems even more important. It is important to note that the task force is not suggesting that a new resource sharing philosophy will evolve because of the use of a value added model. Rather, we note that the need to provide access to information in electronic form requires an increased investment by libraries. How much money any library has to allocate to this purpose and how much flexibility they have vis-a-vis their local mission to expend funds for resource sharing, will vary. That, in turn, will have an impact on resource sharing.

10. A feature of much electronic information — particularly more informal scholarly communications and government-produced information -- may be that fewer values will be added at the point of creation of the information unless the information approaches a definition of knowledge.

11. The effectiveness of the information system, from creation to use, will be evaluated in terms of the quality of values added, the benefit gained or lost, and the cost expended by originator, mediator(s), and user. Any new allocation of intensities of effort necessary to provide these values will influence the overall economic effectiveness of the system.

From these major trends, we conclude that there is an increasing need to develop strategies that integrate elements of a new electronic resources paradigm into a libraries' traditional print-based operations, services, and budgets. Focusing on a subset of the challenge, such as the Depository Library Program, even while adding other complexities associated with government information policies, may lead to experience that will be useful for other, broader purposes.

VIII. APPLICATION OF THE VALUE-ADDED MODEL TO GOVERNMENT INFORMATION IN ELECTRONIC FORMATS

In applying the value-added model to consider further the scenarios for dissemination of government information in electronic forms, or the proposed pilot projects for the Depository Library Program, the task force deduced a few general observations.

1. The cost of adding any single value only has meaning in a particular context for a specific product, or specific kinds of data, in a certain kind of computer or other electronic system. In this regard, one product with value added becomes a new product. Tracking and evaluating the effectiveness and cost of a series of information products which grow one from the other requires that we attempt to cost each new product separately.

2. A full cost analysis would include all participants in the information chain (government agency, library(ies), and users) and all of the values added by each. The 23 value model would be applied to the creation of the information, then to the mediation of the information, and finally to the use of the information. Since this level of costing is difficult to undertake, and since modifications to the product will affect many dimensions of the model at once, it may be difficult to cost each element separately or in a sophisticated manner. Therefore, some costing will be broadly done.

3. Specific information products should be analyzed in terms of values added and associated costs, though perhaps not specifically for each of the 23 values. In lieu of detailed costing, one might describe at least how the product ranks in terms of the 23 values and identify the agent(s) responsible for providing each value-added process.

4. For selective user groups, e.g. faculty members, graduate students, or individuals, research libraries will begin to expend more time than they have in the past in terms of adding value to meet their information needs. Broad estimates of the costs incurred to achieve these higher levels of value-added activities are needed.

5. In terms of costing each product which a library might offer, one might get to a point where the cost of providing the product with added values results in a significant jump in costs — a quantum leap. It may also be the case that a critical mass of comparable products results in overall "net" savings since fixed costs for format and/or equipment may begin to support a variety of products. The important point here is to look for that critical mass and to recognize the consequences for resource sharing, especially in terms of the Depository Library Program.

IX. THE IMPACT OF ELECTRONIC GOVERNMENT INFORMATION ON RESOURCE SHARING AND THE DEPOSITORY LIBRARY PROGRAM

The task force anticipates that evolving patterns associated with electronic information will have a significant impact on resource sharing and the role of research libraries in the provision of national information services. Based upon anticipated trends and the resource sharing frameworks now in place, we suggest that the following context is evolving.

1. Because of the breadth and depth of their collections, research libraries tend to serve as resource collections for other libraries. As more multitype libraries have used OCLC or RLIN for retrospective and current cataloging, the presence of their holdings has spread interlibrary loan requests among a larger number of libraries, although the general pattern of research libraries as net lenders seems to be continuing.

2. Within the Depository Library System a slightly different pattern of resource sharing exists. The general make-up of the system provides for not more than two Regional Depository Libraries in each state that assume responsibility to permanently maintain a comprehensive collection. (There are presently 53 regional libraries in the system.) Regional collections exist in both public and private institutions, in a variety of academic, state agency, and public libraries. In addition, libraries designated as Selective Depository Libraries may elect to be comprehensive and may or may not maintain the collection permanently. The difference noted is that strong depository collections, including Regional Depositories, reside in a wide variety of types of libraries with varying degrees of institutional resources and different institutional missions. As resource sharing becomes more expensive, the ability and willingness of some Regionals to serve as resource centers is doubtful.

3. The task force anticipates that the pattern of resource sharing among different kinds of depository libraries will change as electronic products are added and become critical sources of information. It is possible that different types of libraries will define new scopes for their depository collections and offer a more focused but well defined array of services for the collection.

4. Depositories will probably become more differentiated than they are today, with research libraries playing a more substantial role because they have sufficient funding and staffing to provide some flexibility in responding and adapting to these changing patterns. All depository libraries, however, will continue to accept the mission of making government information available to the public.

5. The particular kind of electronic format chosen to make government information available to depositories will probably largely determine the willingness of depository libraries to add it to their collection or not. Some formats would involve incurring large fixed costs at the library, with significant local computer systems and electronic storage devices. Such investments in local systems will allow users to find information at very small added cost per inquiry. For example, a library might acquire data on tape and mount the files on magnetic disk drives attached to mainframe computers with powerful search software available to users. Other electronic formats may involve little local investment but require significant incremental cost per inquiry. For example, a datafile may reside on a remote computer with access charges per unit of search levied to recoup the cost of the computer time as well as the telecommunications charges.

Depositories located in smaller libraries or institutions are more likely to choose the low fixed cost and high incremental cost per search strategy for most electronic information. Such depository libraries may turn to the larger depository libraries, or other intermediaries, for access to government information in electronic form. Small libraries are unlikely to be willing to incur the large fixed costs that are necessary to provide access to many electronic information products. These patterns of access to government information in electronic formats are likely to parallel patterns already emerging in regard to other electronic information.

Depositories located in larger libraries or institutions are more likely to choose the high fixed cost and low incremental cost strategy at least for very commonly used datafiles. They may be in a position to provide access to other depository libraries with cost recovery from some source.

In the incorporation of electronic products in the Depository Library Program, it should be recognized that different depository libraries can take advantage of different kinds of products to different degrees. It may be to the advantage of the Depository Library Program if, for some electronic materials, a few large libraries serve as intermediaries for all other depositories as well as for remote users of information. Moreover, strengthening existing and defining new relationships among depository libraries may be desirable.

6. How much it would cost a library to expand its role in the Depository Library Program and how some of those costs might be recovered are key considerations. Implicit in the work of the Ad Hoc Committee of the Joint Committee on Printing is the assumption that there will be no significant cost shifts to the depository library or the user for access to government information in electronic format. Their recent report notes only one potentially significant cost for depository libraries and that concerns the acquisition of equipment. The report addresses this by recommending Federal funds to acquire equipment for depository libraries, at least for the duration of the pilot projects, and failing that, to "work with the library community to acquire the funds for such equipment from the private sector."

This task force concludes however that, in addition to hardware expenses, the value added by the depository library, be it basic or sophisticated, could be expensive. It may be the case that the values added to the government information in electronic form are important to the mission of the library. In that instance, the cost of adding the value might be borne by the library and, perhaps, defrayed by a cost recovery fee or by bartering the value-added product/service with another library. Within this context, it is going to be harder for some libraries to add value and, therefore, to have something to sell or barter. Present forms of resource sharing may change and ideals of reciprocity may not be in balance.

X. POSSIBLE CHANGES IN THE DEPOSITORY LIBRARY PROGRAM

Roles for participants in the Depository Library Program may change in some or all of the following ways.

1. Depending on the extent of local investment, depository libraries may begin to recover all or some of the costs associated with adding values to electronic government files. For example, copies of a computer tape received on deposit might be copied and made available for a fee to recover the expense of copying (similar to a photocopy

charge). Or, a service request from a user may involve a fee to recover the cost of local computer time. Or, some form of reimbursement (from the user and/or the government) may be made to support general public use of a 'deposited' government file that has been significantly enhanced by locally developed software. The reasons for a library adding values to a "raw" electronic government information system may influence how the costs will be recovered and whether or not the user will be assessed a fee. For example, if Depository Library Program policies define that the library is to add values to enhance an electronic file, that policy may also define the level of value to be added, who is to be served, and who is to pay.

2. There may develop ascending levels of access to databases. The smallest depository may not be able to afford the equipment and/or staff support to provide access to certain kinds of government information in electronic form. Location, however, becomes inconsequential as electronic information can be relayed from library to library electronically, recalling however, that the economics of resource sharing may be different.

3. Some research libraries may be called upon to support multistate or national public information needs as part of the Depository Library Program. Research libraries, and the institutions of which they are a part, have the resources and technical staffing capability to retrain and shift the skills base and there is already movement toward discipline-oriented services with librarians integrating all information sources, experience which will become increasingly important to fulfill the mission of the Depository Library Program.

4. There may be three levels of depository libraries in which government documents and gateways to government information will be focused, such as the following:

BASIC Services: This level of depository library would serve as an information center in which there would exist a small government document collection and a computerized gateway to electronic government information located elsewhere. The service might be focused more on self-help and on-demand levels. There would be a high cost per transaction but a small fixed cost.

INTERMEDIATE Services: This level of depository library would maintain a larger government document collection and some electronic information and gateways to other electronic information located elsewhere. This library might devise products which would work well through the gateways and might invest in developing value-added approaches to the government information. The service would include more mediation and synthesis than the Basic level.

FULL Service Resource Libraries: This level of depository library would contain research level government documents and a fuller range of electronic information and the most sophisticated gateways to other electronic information. The depository collection would be supplemented by related on-campus databases. The level of service will include the highest levels of value-added. There would be developed software packages and other approaches which would change wholesale government information into retail government information. The cost per transaction would be low and the fixed cost high.

XI. STRATEGIES TO ADDRESS THESE ISSUES

It is apparent that the increased use of electronic information technologies will have a profound impact on library services, operations, and budgets. How government information policies are shaped, especially on the issue of government information in electronic format, will determine to what extent the general public will have equitable access to public information, and therefore will affect any library with responsibilities for delivery and services.

The task force has speculated on a more prominent role for research libraries within the 'electronic Depository Library Program' and is very aware that whatever depository responsibilities research institutions and their libraries are willing and able to assume will have an impact on the rest of the system. The task force recommends that these matters receive your serious attention.

The following represents a preliminary outline of strategies that ARL might adopt to address the topic further. We ask for your comments on these ideas and for suggestions of other tactics that might usefully be brought to bear on this challenge.

1. Develop a set of ARL positions on government information policy.

Section II of this report describes the complex environment within which libraries must participate to influence the development of public policies surrounding government information. Eight proposals were described, each of which might form the basis for an ARL position on government information policy. Comments are encouraged on these proposals and on others that may have been omitted but should also be addressed.

To advance ARL policy positions, the task force believes it is critical that ties be established and/or maintained with offices within the U.S. Government that participate in or influence policy development. This is intended to include a wide variety of contacts including a number of Congressional committees. It is also important for ARL to keep the research community aware of developments in these matters. Suggestions are encouraged about strategies ARL might pursue to connect policy makers with library directors, academic faculty or administrators, and other stakeholders to discuss government information issues.

2. Assess training opportunities for needed staff skills.

There is acknowledgement that the kinds of services provided for information in electronic formats will require new sets of skills for library staff. The task force suggests it would be useful for some agency to undertake an assessment of training programs currently available to determine if they sufficiently meet the needs of library staff. The results of the assessment may suggest a role for ARL. Suggestions for possible agencies to undertake such a study would be useful.

3. Pursue a forum for directors of depository libraries.

The issues identified by the task force require the involvement of the directors of all depository libraries. The task force recommends that ARL develop a strategy to bring together directors of all depository libraries to discuss the program, the policies, and the implications for multitype library resource sharing and other forms of cooperation. The task force invites comments on the usefulness of such a forum and if perceived as a worthwhile endeavor, ideas for strategies.

4. Consider these trends in ARL planning.

The general trends of electronic information have implications for all library operations and the task force recommends that future ARL plans be developed with consideration to how committee and staff work would be most helpful to libraries facing these challenges. The task force invites comment about how these issues might influence future ARL programs and/or the agendas of ARL committees, e.g., Scholarly Communication, Bibliographic Control, Government Policies, etc.

Appendix 1

PLANNING CHECKLIST

Library managers will face complex choices in deciding whether to acquire new electronic information products. First, they must judge the value of the information to their clients. Depository libraries must judge the value of the product to their own institutional missions as well as the role the information may have to the broader constituency of a Depository. Second, they must assess the likely costs of the product. Costs include the fixed costs of setting up a particular kind of service as well as the incremental cost per inquiry. Costs will vary, perhaps redically, from product to product as the amount of local library effort required varies. Moreover, costs will be affected by the degree of standardization achieved among various electronic products. Commitments to sustain access to a particular set of information over some extended period of time may also affect costs, especially as electronic systems become obsolete and go out of manufacture.

The specific decision for a particular product will be influenced significantly by the nature of the product. The taxonomy described in section VI may be useful in making a judgment. Products that come in a standard package with readily available software for access will be valuable to more users and involve lower library costs than products in non-standard packages without handles, hooks, or hinges. Products of interest to a broad community of scholars will be more valuable to research and academic libraries. Products that disseminate information of importance to individuals in their roles as citizens are likely to be of special value to all depository libraries. For example, information products that deal with legislative and regulatory agendas and matters of widespread public policy interest will be worth more.

Libraries will be especially interested in the implications for staff and equipment associated with particular products. Elaborate products, packaged with end users in mind, will typically involve fewer library staff resources, lower skill levels and less training. More libraries will find such products attractive. Less processed information products will necessarily involve more staff resources, higher skill levels, and more training. Similarly, some products will require relatively simple, standard, and inexpensive local equipment, a personal computer with a communication line or a standard compact disk reader representing an investment of say $3,500 with a service life of five years. Other information products will require much more significant equipment commitments, perhaps mainframe systems with more sophisticated software to make the raw information manageable for users.

Here is a quick checklist of value and cost considerations.

1. An analysis of the information product using the taxonomy of government information in electronic format will give you an idea whether or not you want to proceed with further cost analysis. Consider such questions as:

1.1 How many primary clients will use the information product and with what frequency? What is the research potential of the information?

1.2 How many other users will use the product? What is the relevance of the information to the general public? What level of effort and sophistication will be required of users?

2. Next, consider issues of cost such as:

2.1 What are the equipment costs required for initial and continuing support of the product?

2.2 What are the staffing costs, number of people, skill level, and training required to sustain the product?

2.3 What are the license fees, telecommunications charges, and equipment lease costs associated with each inquiry satisfied by a particular product?

2.4 How will access to data be sustained beyond the normal five to seven year life span of computers?

3. Then, consider issues of resource sharing such as:

3.1 Is this information product low fixed cost and high incremental cost or vice versa? How does this relate to current resource sharing commitments/ agreements?

3.2 Are there other avenues for temporaily or permanently providing access?

Appendix 2

Checklist of Laws and Regulations

The following are those laws, regulations, and executive policies frequently mentioned in discussions of access to U.S. Government information.

LAWS

Title 44 of the U.S. Code

A codification of many different federal laws related to "Public Printing and Documents." It includes, among many other things, provisions for operation of the Government Printing Office sales program, requirements for compilation of the Monthly Catalog of United States Government Publications, and laws establishing the Depository Library Program.

Copyright Law

Since the Constitutional authorization of copyright is based on a trade-off between limited property rights in exchange for contributions to the country's general welfare, and since government information is collected or created with the expenditure of public funds, the Copyright Law explicitly prohibits copyright of U.S. Government documents.

The Freedom of Information Act

The Freedom of Information Act is "based on the presumption that the government and information of the government belong to the people" (House Report 95-793). The law allows access to official records and archival material as well as official publications which have been withheld from the public. It was originally enacted in 1964 and revised as recently as 1986.

Privacy Act

The Privacy Act was adopted at the same time Congress originally enacted the Freedom of Information Act and extends the same underlying principle: "that government, in its role as custodian of information, is accountable to those it serves" (House Report 95-793). The Privacy Act gives an individual significant control over how information concerning oneself is used. It allows an individual to review almost all Federal files pertaining to oneself, allows a challenge of the accuracy of the information in the files, and restricts disclosure of such information to others.

Paperwork Reduction Act

The Paperwork Reduction Act was adopted in 1980 with the goal of reducing the federal paperwork burden on the public and consolidating statistical policy activities with information management in the Office of Management and Budget. It is the authority used by OMB to issue regulations related to government information, one of the more controversial of which was OMB Circular A-130.

Export Administration Act

The Export Administration Act of 1979 established a system under which licenses are required for commercial goods and technologies that would make a significant contribution to the military capabilities of a potential adversary. Based on the 1949 Export Control Act that authorized the President to maintain controls over exports to the Communist bloc, the 1979 law extended Presidential authority to control all trade to serve U.S. foreign policy goals. This is the authority used to restrict attendance of scientists at conferences, and which the defense and intelligence community desires to use to restrict access to government and private databases.

Mission Statements of Federal Agencies

References are frequently made to the mission of a government agency and the extent to which it specifies a responsibility for active dissemination of information. This refers to the language in each particular law that established the agency.

REGULATIONS AND EXECUTIVE POLICIES

OMB Circular A-130

The Office of Management and Budget Circular A-130 concerns the Management of Federal Information Resources. Issued December 24, 1985 after considerable critical comment from users and librarians, this circular made official many policies initiated as a result of the Reagan agenda. The main points of A-130 that affect public access to government information are guidelines for agencies that direct maximum reliance on the private sector for dissemination of government information and an 'only-disseminate-it-if-you-must' philosophy.

OMB Circular A-3

Another OMB policy statement, Circular A-3, mandates an annual OMB review of government agency publications. Within the next year, OMB intents to consolidate A-3 into A-130; require agencies to develop policies to ensure adequate notice of the initiation or termination of 'significant' information products; and require agencies to develop internal policies to manage dissemination of electronic information products. OMB has announced that it will soon direct federal agencies to establish and maintain in electronic format a comprehensive inventory of all public information products and services. The inventory is to be used to monitor the guidelines issued in A-130.

NSDD-145

National Security Decision Directive (NSDD) 145 is an executive policy promulgated by the President on September 18, 1984. It sets policy for the protection of telecommunications and automated information systems that process or communicate unclassified but 'sensitive' information. NSDD-145 marked a major change in policy in that it assigns computer security oversight for civilian government agencies to the Department of Defense rather than to the Commerce Department; it authorizes defense agencies to play a role in protecting communications and computer systems in the private sector; and it expands the goal of protecting telecommunications systems to include computer systems. In addition, NSDD-145 established an interagency committee that was the source for NTISSP No. 2 (see below). NSDD-145 is 'under review' by the Administration and is being challenged by Congressional legislation on computer security.

NTISSP No. 2

Frequently referred to as the 'Poindexter Memo' because it was issued in October 1986 by then National Security Advisor, John Poindexter, the National Telecommunications and Information Systems Security Policy (NTISSP) No. 2, was the center of some controversy during the winter until its eventual rescission in March 1987. The main element of this policy statement was a definition of what might constitute 'unclassified but sensitive' information and therefore would fall within the scope of the policies established in NSDD-145. The definition was so broad, encompassing "economic, human, financial, industrial, agricultural, technological, and law enforcement information," that it was considered by many to be no definition at all, implying that any information might potentially be labeled 'unlassified but sensistive.' In March, under pressure from Congress, the Administration reported that the Poindexter Memo was being rescinded.

Appendix 3

Summary of Questionnaire Responses

Last October a questionnaire was sent to ARL member libraries asking for information and suggestions to guide the work of the task force. Respondents were asked to comment specifically on criteria for two activities associated with the pilot projects proposed by the Joint Committee on Printing Ad Hoc Committee: the identification of libraries to participate as test sites in pilot projects and the evaluation of the pilot projects.

The questionnaire asked for suggestions on defining the characteristics of libraries that indicate the potential for success in delivering basic electronic information services. It also sought to collect illustrative information about cost, budget, and use patterns now in place. And finally, a question was asked about library access to wide-area telecomminucation networks. Thirty-nine libraries responded. Each question is repeated below, followed by a summary of the replies.

Question 1:

Anticipated costs for electronic information delivery.

How electronic information delivery is financed will influence the ultimate goal of making information available to the public. Dimensions to the question of financing electronic delivery include identification of costs to be borne by the Federal Government, costs to be borne by the Depository library, and costs to be borne by the user of the information.

The task force proposes to address the matter by considering the following categories of costs for the Federal Government, for the Depository Library, and for the user of the information.

a. the setup costs -- the costs to be incurred before the information can be made available;
b. the operating costs -- the annual costs estimated to sustain the service;
c. the full life cycle costs -- the costs of sustaining the usefulness of the information for however long it is to be sustained.

Please comment on the approach we propose to this question and/or suggest additional categories of costs that should be considered.

Responses: many felt the outline was a reasonable approach although clarification of 'full-life cycle costs' was suggested. Cost categories suggested for libraries were:

1. staff training, staffing
2. hardware
3. space
4. equipment including wiring, cables
5. maintenance and repair including regular copying
6. supplies, including ribbons, paper
7. archival storage
8. updating of equipment files
9. standardization
10. supplementary documentation
11. publicity/promotion

The question also prompted comments from some respondents about the importance of no-fee access to depository material.

Question 2:

Budget models for supporting electronic formats in library collections.

To what extent does your library budget now support access to electronic files and how do you categorize this expense in your budget?

Responses:

Categories of expense
There was no consensus on where activity related to electronic formats should be budgeted. Most frequently mentioned (26 times) was the book budget (or materials, acquisitions, information resources); the "equipment and supplies" line was mentioned eight times. Other sources of funds or budget categories mentioned include:

- the user (5 times)
- operations (5 times)
- grants, gifts, trust funds (4 times)
- personnel (2 times)
- database searching (3 times)
- discretionary (once)
- capital (once)

Activities included
There was a wide variety in the interpretation of activities covered.
One library expects to begin budgeting for electronic activities separately.
Activities included in the various categories:

- online searching (22 libraries)
- equipment/supplies (9 libraries)
- MRDF (5 libraries)
- training (3 libraries)
- telecommunications (2 libraries)
- travel (2 libraries)
- automated technical processing (1 library)
- use of LAN for delivery
- storage
- personnel
- staff use
- maintenance
- public use terminals
- contracts
- CD-ROM
- MARC tapes
- software

Question 3:

Patterns of use.

Is there a pattern of use of electronic data within your institution (by certain departments, kind of users, other)? Does this pattern vary by type of data in the file (bibliographic, numeric, textual)?

Response:

Bibliographic data is used in all libraries; the use of numeric and textual data is limited. Much of the numeric/textual activity is outside the library; there is perceived to be a lack of coordination. There is a great potential for the Library to be involved in all areas. Commentors observed that use of data in electronic formats seems especially useful to multi-disciplinary research and that use by researchers with grants is heavier than of other groups. Patterns of use tend to be related to the programs offered in the institutions and the databases available.

Question 4:

Identification of basic electronic information delivery capabilities.

Is there a way to describe what capabilities are required for a library to offer basic (minimal, not extensive) service to provide access to electronic information?

Responses:

A minimal service would seem to require:

- equipment suitable for format of data (most likely a micro with modem and printer)
- trained staff
- software
- telecommunications
- documentation

Other suggestions include:

- publicity
- space
- document delivery service
- funding for ongoing costs; willingness to fund; financial and philosophical support from the administration
- maintenance and supplies
- user interest
- online catalog as an indexing system
- defined policies
- local area networks
- time
- evaluation strategies
- accounting mechanisms
- storage
- appointments for service

The format of delivery will dictate what the minimal service requires.

The requirements will differ depending on the size of the library. Some non-academic libraries may have difficulty offering assistance in statistical methods and programming.

There was a split between charging for the service and providing the service at no cost.

Question 5:

Access to wide-area networks.

Note to which of the following wide-area networks the library has access either directly or through another institutional office. If there is institutional access only, characterize your enthusiasm for the library linking with the network. Also note any preference for using one or more of these networks as a way to receive government information in electronic format.

Responses:

NSFNet

Yes	20 libraries
No	8 libraries
no response	9 libraries

Several libraries cited subsets:

ARPANET	6 libraries
JVNC	2 "
SDSC	1 library
NCAR	1 "

Nine libraries indicated access through institutional link.

Three libraries indicated their campuses were joining.

MFENET (DOE)

Yes	4 libraries
No	14 "
No response	18 libraries
Yes ?	1 library
No ?	1 library

One library responding yes indicates access is in a specialized research lab.

One library responding no indicates campus is looking into this.

BITNET

Yes	33 libraries
No	1 library
No response	3 libraries

The library responding no indicates, in fact, that BITNET is available on campus in the Computer Science Dept.

Seven libraries indicated institutional access.

OCLC

Yes	33 libraries
No	3 "
No response	1 library

The three libraries responding no were one RLG member, one WLN member, and one Canadian library.

One library (an OCLC library) indicated OCLC would not be their system of choice to receive government information, now or in foreseeable future.

Another library responded, "Established use of OCLC in this Library would make OCLC the network of choice."

RLG

Yes	29 libraries
No	4 "
No response	4 libraries

Eight libraries indicated they have search access only.

Two libraries (one OCLC, one RLG) indicated preference for RLG as deliverer of government information.

OTHER

ALANET	4 libraries
TELENET	3 "
CSNET	2 libraries

Each of the following were mentioned by one library only:

UNINET	EDUNET
TYMNET	SPAN
CASSIS	SURAnet
DIALNET	NASA/TAP
DLANET	MAILNET
ONTYME	USENET
UCCP	PIENET
IAMS	WLN

Comments:

A sophisticated gateway is essential for good access to electronic information.

Users should not have to learn more than one search language or protocol.

There's a need to standardize networks.

The coordination of university capabilities is a goal of the Library.

Appendix 4

DISCUSSION POINTS ON GOVERNMENT INFORMATION
IN ELECTRONIC FORMAT
(4/21/87)

An executive summary of these issues which might be used in discussion with campus faculty and/or institutional officers.

DEPOSITORY LIBRARY PROGRAM: BACKGROUND

The Depository Library Program is a Congressional program administered by the Government Printing Office. The program places collections of U.S. Government publications in approximately 1300 academic, public and special libraries to assure citizens of no-fee access to information about the government in geographically dispersed and politically neutral settings.

There are two kinds of depository library designations -- selective and regional -- each with different collection requirements and responsibilities. Our library was designated in (year) as a regional/selective. There are x other depository collections in the area.

As a depository library we receive government publications at no direct cost to the library in exchange for our agreement to organize and provide service to the U.S. document collection for people associated with our institution AND to the general public.

Examples of the kind of information we receive on deposit are:
- legislative and regulatory information (bills, hearings, laws, regulations);
- statistical data such as the results of population, agricultural, and economic censuses, or financial and economic data collected or generated by Commerce and Treasury;
- scientific and technical reports issued by agencies such as NASA or Energy.

The library invests heavily in organizing the material, providing space and staff services, as well as acquiring complementary information products that increase the usefulness of the collection (e.g., commercially produced indexes).

Because the library needs to provide government information to support the teaching and research mission of the institution, the trade-off between receiving the material at no direct cost, and providing access and services to the depository collection to people not affiliated with the institution, has not been a significant issue.

Generally speaking, the depository collection of documents and associated services have been 'shared' with other libraries in the same manner that libraries cooperate to 'share' all resources. That is, selection profiles are coordinated, documents are loaned to and borrowed from other libraries, public service librarians confer, and users are referred.

By law, fees may not be imposed on any user for access to the U.S. depository collection. Typically, the only money a user spends in conjunction with the use of a depository collection is for the use of photocopy equipment.

DEPOSITORY LIBRARY PROGRAM: CHANGES

Two things are happening that will profoundly influence the Depository Library Program: the development of new technologies for information storage and retrieval, and shrinking government agency budgets.

The development of new technologies offers opportunities to enhance the availability and usefulness of government information. Just as with libraries, government agencies are in varying stages of developing electronic information systems: some are quite experienced and sophisticated (Census Bureau) others are experimenting with applications for different files and systems.

Pressure to reduce Government spending has resulted in fewer published reports and in efforts to contain costs in the administration of the depository program (greater use of microfiche for example).

Pressure to hold down Government spending has led agencies to seek alternative ways to finance development of electronic information systems such as financing by user fees or barter arrangements with private companies. Such arrangements, and other policies, have raised public policy questions about government information -- questions revolving around appropriate government and private information company roles (and who should pay for what) in the dissemination of government information. The stakes, and costs, are greatest for government information in electronic formats and so long-standing questions on these matters are debated increasingly.

POLICIES AFFECTING GOVERNMENT INFORMATION

The privatization initiative and an increase in government restrictions on the flow of information influence the availability of government information in general.

A major policy initiative of the Reagan Administration is privatization of government functions. Privatization applied to government information has resulted in increased prices, more user fees, and exertion of proprietary controls over public information.

A penchant for secrecy has affected the availability of government information: more information is classified and efforts are underway to restrict access to unclassified information, particularly when it resides in computer databases. (This includes efforts to restrict access to information in privately held and commercially provided databases.)

The Administration's policy of disinformation (intentionally providing false information intended to mislead nations hostile to the U.S.) raises questions of credibility of all government information, especially technical data.

GOVERNMENT INFORMATION IN ELECTRONIC FORMAT

Increasingly, more and more government information that was once available in paper reports is now available only in electronic formats. At the same time, more users want government information in electronic formats in order to incorporate it directly (without re-keying) into personal or project files and in order to be able to derive customized presentation or analysis of data.

Agency efforts to minimize the use of Federal funds for development, installation, and operation of electronic systems has led to an increase in user fees and barter arrangements with private companies. This has frequently led to increased costs to users. (Examples cited in Business Week, 12/15/86, pp. 102-103.)

Electronic government information has not yet been distributed to depository libraries but plans are now being made to test the usefulness and economic feasibility of doing so. There is speculation within the Federal sector that the government itself will save money if electronic products can be substituted for traditional paper and microfiche formats.

The economics of being a depository library will change. The impact on our budget will depend on the particular electronic format used for distribution. It is not possible to predict how much it will cost us to serve as a depository library. This information will come with experience.

Distribution of electronic government information to depository libraries has major implications for institutions that support depository libraries -- most very positive, some expensive.

It is probable there will be increasing amounts of government information available only in 'raw' or wholesale form — that is, information not readily usable or not usable in a very sophisticated manner. Since much of this will not be information of significant 'market value' and private companies will therefore not provide value-added systems for this information, it is likely that research institutions will have opportunities, or be required, to take this raw information and make our own 'retail' products. Our faculty/users who need this information will expect the institution to respond to these opportunities.

To make best use of available resources and to prevent duplication of effort, local 'value-added' services should be coordinated through a single, institution-wide center. The library, given the existing resources and expertise already developed, is the logical institutional clearinghouse for such activity. This connection also facilitates participation in a network that links research institutions and makes it possible to share information about what electronic files are developed elsewhere. This of course minimizes expensive duplication of effort and allows us to continue to 'share' (a two-way street) other locally developed information resources.

Challenges of incorporating electronic products and new services into the Depository Library Program represent a microcosm of many changes and pressures research libraries face.

ELECTRONIC INFORMATION SERVICES IN THE LIBRARY

We anticipate a transition period of from 5 to 20 years as we incorporate new formats of information products into library programs while maintaining traditional paper-oriented services. It will not be a clean break. The need to manage complimentary formats will continue.

With the introduction of electronic information and high speed telecommunications networks, the role of the research library expands from being a repository of information to being a gateway, providing a variety of communication channels to access data and information not owned but made available. This might

include access to data within and outside the institution as well as access to telecommunication networks within and outside the institution.

Library resource 'sharing' will expand from sharing document-based information products into a responsibility for library staff becoming active participants in the communication process with and among users/scholars.

Staff skills and training programs must change to fulfill all these new roles.

Increasingly we will need to consider to what extent this institution will take the initiative to add value to electronic files to meet needs of our users. Strategies need to be developed for incorporating government information in electronic format into library services to meet local needs. Strategies are also necessary to exert influence over public policies that affect public access to government information.

RECOMMENDATIONS FOR LOCAL STRATEGY*

RECOMMENDATIONS FOR NATIONAL STRATEGY*

*To be developed following ARL membership discussion.

APPENDIX C

ARL Recon Project Report

ARL Committee on Bibliographic Control
Sterling J. Albrecht
Henriette D. Avram
Robin Downes
Dorothy Gregor
Sharon Hogan
Marianne Scott
David F. Bishop, Chair

April 24, 1987

ARL Recon Project Report

In May 1985 the ARL membership voted to establish the ARL Recon Project, as a two-year pilot project, assessing themselves $500 per year for each of those two years. A condition of the proposal was that an evaluation be conducted prior to the end of the second year to assist members in deciding whether the project should be continued. This report is the evaluation that was requested.

Four criteria were established as a basis for evaluation. They are: (1) the level of participation by the research library community; (2) the number of titles converted under the aegis of the program; (3) the amount of external funding obtained; and (4) the effectiveness of the distribution process.

The following evaluation will consider each criterion indicating activity, successes and failures. An additional criterion, guidelines for record creation, has been included because it was viewed as important although it was not included in the initial criteria. Following the review of criteria is an overall assessment of the project, followed by options for the future and then the Bibliographic Control Committee's recommendation concerning the future of the project.

The Level of Participation by the Research Library Community

Twelve libraries are actually participating in coordinated projects in Latin American Studies, Scientific and Technical Publications, Religion and Philosophy, Music, Preservation Microforms, Western Americana, Agriculture and Southern U.S. History. Twenty libraries, including some of the twelve mentioned above, are participating in the planning of coordinated projects in Agriculture, Latin American Studies, Slavic Studies and Technology. In addition, 14 libraries have expressed an interest in participating in one or more projects.

An assessment of this criterion suggests that there has been considerable interest since 43 library projects have begun, are in the planning stage or have been identified. On the other hand, the Project Coordinator indicates that getting collaborative efforts to the stage where they are ready to be submitted for funding has been more protracted and timeconsuming than was anticipated.

The Number of Titles Converted Under the Aegis of the Program

To date, approximately 500,000 records have been or are being converted. Of these, based on a projected average of 35% new records, 175,000 new records have been or are being created. There are plans for conversion of approximately 1,500,000 additional records over the next two years of which an estimated 35% or 525,000 should be new records. If one combines the records in planned and ongoing conversion projects, one finds 2,000,000 records converted or planned to be converted of which 700,000 are projected to be new records.

While the overall numbers are reasonably impressive, some further explanation is necessary. First, it is difficult to determine how many of the 500,000 records presently being converted are being done as a direct result of the recon project and how many would have been converted in any case. An attempt to obtain reliable data about this has been unsuccessful. Anecdotal information abounds with some of those queried indicating that their projects were in place and would have been done in any case and others indicating that without the ARL Recon Project they would not have begun conversion.

The second factor is that it is difficult to ascertain how many of the 1.5 million planned records will actually be converted. As will be discussed later, obtaining funding has been a problem. Therefore, while the conversion of some of these records will be funded and others will be converted regardless of funding, there is a group that may not

be converted because of lack of funding. That group could represent a large portion of the total number of records planned for conversion.

The Amount of External Funding Obtained

The amount of external funding is also difficult to ascertain. There are three categories of funding sources: Department of Education HEA Title IIC funding, other external funding, and OCLC special credits.

The Title IIC grants for 1986/87 that were funded included six recon projects of which four were reviewed by ARL. The amount of funding received by ARL reviewed projects was $742,871. Title IIC applications for 1987/88 include 5 ARL recon projects. In considering Title IIC funding it is important to remember that the overwhelming majority of Title IIC funds have been awarded to ARL libraries in any case so one really can not say that the Recon Project is bringing new Title IIC funds to ARL libraries.

There has been less success in attracting other external funding. While cooperative recon proposals have been submitted to a number of funding agencies, none has been funded and the prospects for funding are unknown.

OCLC's decision to provide special credits for records converted as part of ARL sponsored projects has the potential to be a major contribution to the program. As of December 1986 the direct value of these credits to ARL members was $15,350. This figure does not include the music recon project.

As with the first criterion, the number of records converted, there is a major problem determining how much of the funding received was a direct result of the ARL project. While it is clear that the OCLC special credits are a direct benefit, no other new funding can positively be attributed to the project.

The Effectiveness of the Distribution Process

Soon after the Recon Project began, an agreement was reached between OCLC and RLG to exchange records created as part of the project. Although OCLC's terms for exchanging records were not as liberal as many had hoped, this agreement did provide the basis for a record distribution system. Based on that agreement 16,900 records have been shared to date and an expected 182,900 will be exchanged in 1987.

While the agreements to exchange records are a positive development, the difficulty of using magnetic tape as a distribution medium and the lack of timeliness in distributing and loading records have been serious problems. These problems are such that one must question the viability of multiple utility coordinated recon projects unless some means other than the inter-utility exchange of records on magnetic tape is the basis for coordination.

Guidelines for Record Creation

While not a formal criterion, the establishment of recon record guidelines is an important benefit derived from the project. Each organization submitting an ARL recon proposal certified its compliance with the guidelines. Although a verification of compliance has not been feasible, there is confidence on the part of the Project Coordinator that the guidelines are being followed.

Overall Evaluation

The overall results of the project are mixed. On the positive side, coordinated projects have been planned, guidelines for record creation have been established, record sharing agreements have been adopted, interest in recon has been stimulated, OCLC special credits have been provided and a substantial number of records have been converted. On the negative side, little funding has been attracted, the development of

projects has been slow, the agreement to distribute records is more restrictive than was envisioned and record distribution has been too slow for effective coordination.

Future Plans

At the request of the ARL Board of Directors, the ARL Recon Project Coordinator developed a plan for the future of the project. The plan as outlined in Chart 1 identifies four options.

The first option calls for essentially maintaining the project at its present level but shifting the emphasis of the Coordinator's activity from developing new projects to assisting in obtaining funding for projects already planned. Because the initial setup work for the project has been done, less staff time would be required in the future and as a result the cost for this option would be $23,600 per year or $200 per member.

The second option calls for continuing the present maintenance activities of the project but would not include assistance in obtaining funding for existing projects. Also, the general level of activity would be somewhat lower. The cost for the second option would be $14,750 per year or $125 per member.

The third option would reduce the activity to the management of a clearinghouse, the conducting of periodic surveys and general oversight of the project. The cost of this option would be $5,000 per year or $42 per member.

The fourth option would eliminate the clearinghouse with the sole activity being monitoring the project. With this option, minimal staff time would be required and as a result no direct ARL cost would be associated with the project.

Recommendation

The decision on the future of the project should not be based solely on the success achieved during the first two years. There could be a highly successful pilot project which required little further coordination or monitoring and therefore option three or

four would be the most appropriate choice for the future. On the other hand, a pilot project could result in little actual progress but the creation of a sound foundation for future accomplishments would argue for selecting option one.

The Committee believes that the selection of option two, three or four would be undesirable. Choosing any of these would result in funds already spent being wasted to some extent and would leave a number of libraries who have made a commitment to the program without the support they need for the next two years. On the other hand, many of the problems that have been identified earlier in this report will continue to exist and some seem intractable. Of particular concern is the low success rate in obtaining funding and the coordination problems created by the delays in actually accomplishing record exchange and loading. These problems argue against expending significant resources in developing additional coordinated projects.

Given that reducing support for the project will present problems for some members and that the events of the last two years do not justify developing new recon projects, the Committee recommends that the ARL membership fund the ARL Recon Project for the next two years at the option one level, shifting the emphasis from coordinating multi-institutional projects to assisting in obtaining funding. The project would then move to options two, three and four for one year each. Option one has the advantage of keeping the project intact and provides two years to work on obtaining funding for projects already developed. Should funding efforts be successful, the membership may wish to continue the project at the option one level for an extended period with the coordinator's time divided between developing new projects and obtaining funding for them. Also, a factor that played a part in the Committee's thinking was that the assessment of $200 a year per member for two years is a substantial reduction from the present level of $500 and should be an amount aceptable to most library directors.

The ARL Recon Project has raised a number of fundamental questions. First, there is the question of whether ARL should attempt any project of this type. A second question is whether ARL should sponsor separately funded programs. The advantage of separately funded programs is that membership votes specifically on these programs and it is therefore easy to discontinue them at any time. The disadvantage is that separately funded programs tend not to compete with ARL's regular programs and as a result may be eliminated while less valuable regular programs continue.

As membership decides what course to follow with regard to the ARL Recon Project, the merits of the project need to be separated from the more fundamental issue of the role of ARL. A commitment to the project has been made by the ARL membership and individual members who chose to participate made an additional commitment through their participation. The recommendation of the Bibliographic Control Committee provides the members who chose to participate with the support they need, brings the project to an orderly close and provides the option of extending the program should conditions warrant.

CHART I

SUMMARY OF OUR OPTIONS

Activities	Options 1	2	3	4
1. Maintain ARL management support	yes	yes	no	no
2. Oversee Project	yes	yes	monitor	monitor
3. Assist in locating and obtaining funding sources for projects already planned	yes	no	no	no
4. Coordinate retrospective conversion projects within the context of Association-wide subject fields	yes	yes		
5. Monitor ongoing coordination and collaboration projects and maintain program statistics	yes	yes	no	no
6. Promote participation and publicize Project	yes	yes	no	no
7. Facilitate tape exchanges between OCLC and RLG	yes	yes		
8. Explore establishment of a distribution clearinghouse at LC	yes	yes		
9. Monitor need for changes in "Guidelines"	yes	yes	no	no
10. Operate Recon Clearinghouse	yes	yes	yes	no
11. Provide information to member libraries	yes	yes	limited	no
12. Conduct periodic surveys of ARL member recon plans and priorities	yes	yes	yes	no

Costs	1	2	3
Annual Budget July 1987 June 1988	$23,600	$14,750	$5,000
Cost per Member Library	$200	$125	$42

APPENDIX D

President's Task Force on Membership Criteria

Report and Recommendations

[Approved by the ARL Board of Directors
February 1987]

Members of the task force:

Millicent D. Abell
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Richard J. Talbot
Anne Woodsworth, Chair

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ASSOCIATION OF RESEARCH LIBRARIES

President's Task Force on Membership Criteria

Report and Recommendations

I. Introduction

The President's Task Force on Membership Criteria was appointed following the October 1985 ARL Membership Meeting to review the existing ARL membership criteria, assess the effectiveness of these criteria in ensuring the communality of the Association, and make recommendations regarding the changes that should be made. The task force presented an Interim Report to the ARL membership for review and comment at the October 1986 ARL Membership Meeting. A final report was prepared following that meeting and reflects membership discussion, a subsequent task force meeting, and discussion from the February 1987 meeting of the ARL Board of Directors. The Association's legal counsel has reviewed the proposed criteria and found them satisfactory.

II. Background

A. The Current Membership Criteria

The ARL Bylaws specify that "membership shall be open to major university libraries whose collections and services are broadly based" and define such libraries as "those whose parent institutions broadly emphasize research and graduate instruction at the doctoral level and grant their own degrees, which support large, comprehensive research collections on a permanent basis, and which give evidence of an institutional capacity for and commitment to the advancement and transmittal of knowledge." Prior to the 1970s, the criteria for membership were somewhat subjective, focusing to a great extent on unquantifiable institutional characteristics. In 1972, however, a set of median criteria were adopted which required certain quantitative standards be met by potential members; these median criteria were revised slightly in 1976. In 1980, concerned with the rapid growth of the Association and a desire to retain as much communality as possible, the ARL index was adopted as a quantitative requirement.

The current membership criteria for university libraries, adopted in May 1980, consist of two parts. The first is qualitative, designed to reflect the definition of research libraries in the ARL Bylaws. To meet these criteria, the parent institution of an applicant library must exhibit the depth and breadth of its research programs by offering the Ph.D. degree in a required number of fields at the time of application. Once this definition has been met, the potential member's similarity to the current membership is assessed by calculating its ARL Library Index score for the immediate past four years. To be considered for membership, a library must achieve a certain index score (-1.00) for those four years. Members that fail to maintain a level of -1.75 for four years in a row are dropped from the Association.

After five years of experience with the current criteria, it became apparent that there were problems with them that should be reviewed. These included:

1. The flaw of declining membership standards. The index, like previous criteria, is based on the whole membership. As the Association has grown, and smaller libraries have joined, it has become easier for even smaller libraries to qualify for membership. The purpose of the index was to identify as objectively as possible (and through quantifiable measures) the libraries that were similar in size to ARL members. Though more effective than previous criteria, the index nevertheless was not immune to the problem of declining membership standards as the Association grew.

2. Misinterpretation of the index as a measure of status or quality. In fact, the intent of the index is to summarize several measures of size which can differentiate research libraries from other libraries.

3. In addition to ensuring similarity of size among ARL members, the criteria also aim to ensure a similarity of character and purpose among ARL member institutions. The Ph.D. fields requirement was used to indicate the depth and breadth of research programs. Several problems had been noted with this criterion, such as some institutions including all doctoral degrees awarded rather than just Ph.D. degrees.

4. The legal implications of having a quantitative entry level requirement that differed from that needed to maintain membership were questioned.

5. The impact of the size of the Association on its ability to achieve its goals had emerged as a concern.

B. Membership Size

At the outset, the Task Force established a working assumption that neither a reduction in the number of members nor a limit to the growth of the Association was necessarily desirable. Therefore, the task force initially looked at several options:

1. Fix the membership at its current number; new members would be added only when an existing member dropped out.

2. Maintain the current membership and allow the organization to get smaller by dropping those institutions that drop below a certain level, when this occurs.

3. Adopt the same criteria for membership and for maintenance of membership.

4. Adopt more rigorous criteria for membership but not for maintenance of membership. (This option is essentially the status quo.)

From discussions at the October 1986 ARL Membership Meeting, a clear preference was shown both for not endangering the current membership and for controlled rather than unlimited growth.

C. The ARL Membership Criteria Index

A number of criticisms of the ARL index have been made over the past few years. Questions have been raised as to whether the index measures the "right" things, whether the current categories are measuring the same things twice or have a built-in bias due to the location of the library (e.g., expenditures for salaries and wages), and whether new elements should be added and/or some existing elements dropped as emphases in library operations change.

The index is not made up of categories selected at random. Rather, factor analyses were performed on the 22 categories of data collected by ARL, and the ten elements chosen for the index were those in which ARL libraries most resemble one another. Before other elements can be added to the index, sufficient data for those elements must be collected and analyzed to determine if they are appropriate to be used in calculating a revised index. And this might take years.

An important element in calculating a statistical index is a constant group from which the data are drawn. In this light, a subgroup of the ARL membership might be a reasonable control group. The charter members represent a cross-section of the membership, thus the 35 university libraries that were original members could be used to calculate the index, and a formula established that could be applied to all current and potential members. Another possible control group is the 65 university libraries that were members when ARL incorporated in 1962.

At the request of the task force, Kendon Stubbs of the University of Virginia prepared a report on the index to test various representations of the index, including potential "control" groups and different combinations of elements. The report concluded that basing the index on a group of libraries that remained constant from year to year would both stop the decline in membership standards by having potential members evaluated against a select group rather than the whole membership, and not result in many changes in rank (although there would be a noticeable effect on the actual scores). As there is more possibility for variation among the group of 65 ARL members in 1962, the task force agreed that it would be logical to select the charter members as the core group upon which to base membership criteria in future, since doing so would allow for some, but controlled growth.

The report also tested the feasibility of an index based on five variables: volumes held; volumes added, gross; current serials; total expenditures; total professional plus nonprofessional staff. The five-variable index proved to be very close in results to the ten-variable index--84% of the libraries differed in rank by six places or fewer. It is essentially a collections-based index, influenced somewhat by total expenditures and staff, but may reduce some of the comparability problems in the ten-variable index by aggregating the figures rather than depending on local interpretation of component data. It therefore minimizes the possibility of duplication or bias. An added benefit is that a simplified index, based on fewer categories, should be easier to understand and to interpret.

Appendix 2 illustrates the ten-variable index and the five-variable index using 1984-85 data.

D. Maintenance Requirements

Maintenance requirements were established with the index criteria adopted in 1980 to emphasize that for both university and nonuniversity libraries, continued membership in ARL requires a continuing commitment to research support. Nonuniversity libraries were to be reviewed periodically by an ARL Membership Committee on Nonuniversity Libraries. University library members had to maintain an index score of -1.75; potential members had to have a score of -1.00 for the four years up to and including the year of application. Several points should be noted, however. First, since the entry level index score and the maintenance level index score were not the same, a number of current members fell below the level required for new members. In addition, once a library qualified for and joined ARL, it could drop below the level required for initial membership with no repercussions unless it fell below the maintenance level. ARL's legal counsel was consulted preparatory to the task force deliberations, and he recommended that consideration be given to having the quantitative criteria applied equally to current and prospective members.

In a straw vote taken during the October 1986 ARL Meeting, the membership indicated a clear preference for controlled growth without a reduction in membership. In light of this, task force discussions of maintenance requirements, and the change to a five-variable index, the task force concluded that, using the five-variable index, it would be possible to set the entry level at a point (e.g., -1.65) that would be reasonable not only to allow controlled growth but also to assure that most members were above the required level. In this case, the maintenance requirement becomes unnecessary. On the assumption that the membership maintenance level should remain at a number roughly equal to the old -1.75, it is recommended that the new maintenance requirement be an index score of -2.25. Despite earlier concerns, legal counsel's advice was that different index levels for potential and existing members is a defensible position since its intent is to permit effective interchange of information among research libraries of similar size and purpose.

E. Qualitative or "Researchness" Criteria

In an effort to clarify and amplify the qualitative criteria for membership, the task force discussed the feasibility of constructing measures for "researchness" that would allow a relatively objective and non-interpretive method of evaluating potential member institutions. The possible "researchness" factors explored included:

- Amount of sponsored research (federal, state, institutionally, and privately funded)
- Ph.D.'s awarded (possibly grouped by broad discipline)
- Ph.D. fields
- Number of faculty members and researchers
- Number of articles produced by faculty, as measured in citation indexes
- Number of graduate students (also, possibly, the number of RA's or TA's)
- Capital expenditures for research facilities
- Number (%) of Ph.D.'s on the faculty
- Academic program rankings
- Mission statements
- Endowments (eliminated; considered skewed toward private institutions)

The Committee on ARL Statistics was asked to investigate the feasibility of using these factors to assess potential members. This committee agreed that data on Ph.D.

fields and Ph.D.'s awarded were the most promising to investigate. The other factors were not considered to be useful at present because they probably would require more costly and time-consuming data gathering and analysis, seemed to be skewed towards the sciences, or did not seem to be logical bases for objective evaluation. A brief analysis of data on doctoral degrees awarded in U.S. institutions during 1983-84 (based on Center for Education Statistics data) did not yield promising results and the Statistics Committee recommended to the task force that while further analysis could be undertaken in this area, it did not seem to be worth the expense. The task force concurred with this view and agreed that, until a better measure is found, the current criteria--i.e., a required number of fields in which Ph.D. degrees are awarded--should stand. However, for consistency, the entrance requirement should be 50% of the median number of Ph.D. fields reported by the charter members rather than by the entire membership. As the charter members vary in size along the spectrum of ARL libraries, this would still be representative of the membership as a whole, but again would provide a constant control group.

F. Inconsistent Data and Other Issues

The task force's Interim Report noted that recent applications for ARL membership had brought to light a number of difficulties. The most pressing was the discovery that data submitted by several institutions in support of their applications varied significantly from data for the same period submitted by these same institutions to ACRL and HEGIS. It was not clear whether these inconsistencies were attributable to misinterpretation of instructions or to inaccurate data. At the same time, analysis of the data submitted by the current membership of ARL revealed a number of anomalies, some of which called into question the comparability of the ARL Statistics and the usefulness of the statistics for certain purposes.

The task force made several recommendations regarding these issues. First, staff was asked to take steps to clarify the inconsistent data submitted in support of membership applications. Second, the question of inconsistencies with data submitted by current members was referred to the Statistics Committee. As a result, procedures were established to monitor more closely the data submitted annually by members and to refer problems to the committee and/or Board as necessary and investigation of inconsistent data was begun.

Procedures for review of candidates for membership were drafted (Appendix 4) to allow for an appeal process (as recommended by legal counsel) and to clarify that membership is by invitation (Appendix 5). The task force also considered and revised the responsibilities of members as stated in Appendix 1.

During Board discussion of Appendix 1, it became apparent that the quantitative elements for nonuniversity libraries needed to be revised. The changes are included in Appendix 1.

III. Recommendations

The task force recommends the following be adopted by the membership:

1. That, as outlined in the revised Statement on Qualifications for Membership, the ARL membership criteria index be derived from five variables rather than ten, and be calculated for all members based on the charter university library members. (See Appendix 2.)

2. That, to qualify for an invitation to join ARL, a library is required to achieve an index score greater than -1.65 for each of the four years prior to and including the year of application.

3. That libraries unable to maintain an overall index score greater than -2.25 for each of four consecutive years will not be able to remain a member of the Association.

4. That the revised Statement on Qualification for Membership, as it appears in Appendix A, be adopted.

5. That a Membership Committee be established to meet on an ad hoc basis to review candidates for membership (university and nonuniversity), questions of policy, and special issues such as appeals. (See Appendix C for a proposed charge.)

6. That the Board affirm its policies on merged institutions and library systems, i.e. 1) that merged institutions may be considered for membership four years after a single library director is appointed, and 2) that libraries, not systems, form the membership base of the Association.

7. That new membership candidates should be considered as necessary.

8. That the Application Procedures as outlined in Appendix 4 be adopted.

9. That the membership adopt the "Requirements of Membership" statement given in part four of Appendix 1.

10. That the moratorium on new memberships be lifted, effective immediately.

Appendix 1

Statement on Qualifications for Membership in the Association of Research Libraries

Part One: Prologue

The expressed mission of the Association of Research Libraries is "to strengthen and extend the capacities of its member libraries to provide access to recorded knowledge and to foster an environment where learning flourishes, to make scholarly communication more effective, and to influence policies affecting the flow of information."[1] To fulfill this central purpose, "the energies of the Association are focused on matters which are of special concern to large research libraries as distinct from problems shared by them with other kinds of libraries."[2] Therefore, membership in the Association of Research Libraries necessarily is limited to research institutions sharing common goals, interests, and needs. Single institutions, not systems, form the membership base.

Membership in the Association is by invitation upon the recommendation of the Board of Directors and approval of the membership. Candidates for membership must meet the qualifications established by vote of the membership. The criteria for ARL membership derive from efforts to define a universe of similar institutions that share a commitment to providing the materials needed for serious study and research. As ARL is primarily an association of major university libraries, criteria have been developed that describe libraries much like the current members. These criteria, described in the sections of this paper discussing university and nonuniversity libraries, are applied to libraries being considered for membership in ARL.

Part Two: University Libraries

The Bylaws of the Association specify that membership shall be by invitation "to major university libraries whose collections and services are broadly based" and define such libraries as "those whose parent institutions broadly emphasize research and graduate instruction at the doctoral level and grant their own degrees, which support large, comprehensive research collections on a permanent basis, and which give evidence of an institutional capacity for and commitment to the advancement and transmittal of knowledge."[3] The criteria for university library members consist of two parts, the first to ensure a similarity of institutional characteristics with the current membership (qualitative considerations), and the second to ensure comparability of size (quantitative considerations).

Similarity of Purpose

The first part of the university library criteria is designed to ensure that university libraries being considered for membership in ARL contribute to the effective interchange of information among research libraries having common characteristics. This assumes broad, interdisciplinary library collections and programs in support of research and graduate education. To meet this criterion, the parent institution of a university library must offer the Ph.D. degree in a minimum number of fields at the time of application if the library is to be considered for ARL membership. The required number should equal

50% of the median number of Ph.D. fields offered by the parent institutions of the 35 charter ARL university libraries in the year of application. In the academic year 1984-85, the median number of Ph.D. fields among charter members was 62, thus the number of Ph.D. fields required for membership was 31. In considering an institution for membership, Ph.D. fields are defined in conformance with the instructions to member institutions for reporting data for the Association's annual statistical compilation.[4]

Institutional permanence and commitment must also be demonstrated. Therefore, in the case of institutional mergers, a library cannot be considered for membership until it has operated for at least four years under the administration of a single director.

Similarity of Size

The second part is a statistical requirement to ensure similarity of size. Through the use of the statistical technique known as factor analysis of 22 categories of data collected annually from each ARL members, five categories have been identified which describe those characteristics the ARL members hold most in common:

number of volumes held
number of volumes added (gross)
number of current serials received
total expenditures
number of professional plus nonprofessional staff

It is possible to assess a potential member's similarity to the present membership by examining the statistics of the candidate library in these areas. The method of comparison is use of an index score derived by the variant of factor analysis called principal component analysis.

By means of this analysis, weights are determined for each of the five variables above. The analysis gives the highest weights to those variables in which the 35 charter ARL members are most uniform and lower weights to the variables for which there is more variation. Unlike the previous membership test where volumes held and volumes added, for example, were treated as equally important, in this analysis volumes held are weighted more heavily than volumes added. To qualify for membership in ARL a library is required to achieve an index score greater than -1.65 for each of the four years prior to and including the year of application. This quantitative requirement ensures that new members will be essentially similar to most present ARL members.

To ensure an Association with a common purpose, members will maintain an index score of at least -2.25. Falling below this level for four or more consecutive years will disqualify a library from membership. Membership requirements are specified in Part Four, below.

Part Three: Nonuniversity Libraries

Although ARL is primarily an association of academic libraries, the ARL Bylaws indicate that in addition to major university libraries, membership in the Association is open to "certain other libraries whose collections are recognized as having national significance." Such libraries are those research libraries not affiliated with degree granting institutions, but which may be affiliated with government agencies, federal, state, or local associations committed to research, or which may be nonaligned, governed by their own boards of directors, trustees, etc. To be eligible for membership, such

libraries must share the same research mission as the university library members of the ARL.

The criteria for assessing the commitment to research and the breadth and national significance of the collections of a nonuniversity library must necessarily be qualitative and subject to interpretation and judgment, particularly because the essential qualification requires an assessment of the extent to which the library is similar in its goals and objectives to the university libraries that form the primary body of the Association. Membership invitations to nonuniversity libraries will be issued at the recommendation of the Board of Directors of the Association, based on its evaluation of candidates identified by the Membership Committee, and on approval of the membership.

In evaluating potential candidates, the Membership Committee will be concerned particularly with the research and scholarly mission (role and scope) defined for a library by its governing body, the commitment of support by the governing body, and evidences of the accomplishment of these missions. Emphasis will be placed on the following elements: national significance of the collection for research and scholarly work, scope and depth of services provided to the research and scholarly community, and permanence of the research collection. Important consideration will be given to how an institution could contribute to the goals and objectives of ARL.

Nonuniversity research libraries will be evaluated on the qualitative elements of their operations and collections as well as on quantitative elements in accordance with the following guidelines.

The following guidelines are designed to ensure the maximum participation of future nonuniversity members in the full range of ARL activities, including maintenance and preservation of large collections of diverse materials, the building and maintenance of large bibliographic files and databases, and interest in cooperative efforts necessary to cope with these problems.

Collections

Collections must be generally recognized as a major scholarly resource of national importance, as evidence by listing in national directories and guides and citations in published research. While the collections need not be as broadly based as those of a general university library, they must represent a reasonably broad spectrum of disciplines. The collections should be sufficient in size to correspond to the comprehensiveness and depth required to support doctoral programs. In addition, there must be an acquisitions program at a level to at least maintain the currency of the library's collections.

The following basic level is suggested: collection size of 1,000,000 cataloged volumes with a low ratio of duplication of titles.

Acquisitions

There are two major characteristics of university library acquisitions; the first is the relatively large number of books acquired each year and the second is the emphasis on serial publications. In addition, a significant percentage of these acquisitions are in foreign languages. These characteristics impact heavily on university libraries' ordering and cataloging procedures.

Nonuniversity libraries should meet the following basic standards:

a. Acquisitions: 25,000 titles per year (different titles), with a high ratio of nonfiction to fiction
b. Serials (current): 10,000 different titles
c. Fifteen percent of the books in serials should be in foreign languages.

Staff

The staff should be large enough and well trained enough, with an appropriate ratio of professional to nonprofessional staff, and with the subject and language expertise required to provide adequate bibliographic control and interpretation of the collections to scholars and researchers.

Resource Sharing

There should be evidence of active participation in programs of resource sharing of all types as may be demonstrated in:

a. Contributions of cataloging information to national bibliographic data bases;
b. Participation in regional and national consortia, networks, etc.;
c. Participation in interlibrary loan activities for appropriate materials;
d. Public access to collections for all qualified users.

Use of Collections

There should be some evidence that scholars are using the collection and that the institution is of service to a community of scholars and researchers, as exhibited by records of circulation and interlibrary loans, reader-days, fellowships, publications, and exhibits.

Part Four: Membership Requirements

Libraries that are members of the Association are expected to meet the following membership requirements.

1. Members must contribute the data necessary to establish the membership criteria and to compile the annual ARL Statistics.

2. Members must continue to meet the requirements for membership as stated in this "Statement of Qualifications for Membership in the Association of Research Libraries." University libraries are required to maintain an index score of at least -2.25. Membership status of nonuniversity libraries will be reviewed periodically.

3. Members are expected to be represented at meetings of the Association by the chief librarian.

4. Members must pay all dues and assessments voted by the membership.

5. Members are expected to participate in the affairs of the Association.

Notes

1. ARL Five Year Plan, May 1983.

2. ARL Committee on Role and Objectives. Report, May 21, 1973.

3. Bylaws of the Association of Research Libraries. As amended October 1985.

4. For the purpose of ARL reporting, Ph.D. fields are equivalent to the specific subject specialties enumerated in the form used by the U.S. Center for Education Statistics in collecting information on higher education in its Integrated Postsecondary Education Data Survey (IPEDS). The official title of the form is: "Postsecondary Completions, Part B: Baccalaureate and Above." It is designated as ED (CES) Form G50-14P-C. Although the IPEDS requests figures for all doctoral degrees, only fields in which Ph.D.s are awarded are reported on the ARL questionnaire.

Appendix 2

Comparison of Ten-Variable Index and Five-Variable Index

On the following page, the ARL membership criteria index has been calculated in two ways using the revised data for 1984-85. Index A is the new five-variable index, based on the charter members, which the President's Task Force on Membership Criteria recommends adopting as part of the ARL membership criteria. Index B is the ten-variable index ARL has used as a membership criterion since 1980.

The elements used in calculating the five-variable index are:

number of volumes held
number of volumes added (gross)
number of current serials received
total expenditures
number of professional plus nonprofessional staff

The elements used to calculate the ten-variable index are:

number of volumes held
number of volumes added (gross)
number of microform units held
number of current serials received
expenditures for library materials
expenditures for binding
total salary and wage expenditures
other operating expenditures
number of professional staff
number of nonprofessional staff

Membership of the Association of Research Libraries
1984-85

Institution	Index	Index
+Harvard	2.07	2.99
+Calif., Berkeley	1.65	2.52
Calif., Los Angeles	1.45	2.53
+Texas	1.25	1.98
+Illinois	1.22	1.79
+Yale	1.22	1.99
+Toronto	1.10	1.71
+Stanford	1.09	2.07
+Columbia	0.82	1.77
+Chicago	0.77	1.25
+Cornell	0.75	1.66
+Wisconsin	0.58	1.44
+Washington	0.50	1.55
+Minnesota	0.30	1.20
+Princeton	0.25	1.00
+Ohio State	0.18	1.10
+North Carolina	0.17	1.07
British Columbia	0.10	0.87
Arizona	-0.06	0.88
Pennsylvania State	-0.12	0.79
+Pennsylvania	-0.17	0.67
New York	-0.21	0.65
Calif., Davis	-0.24	0.70
Georgia	-0.26	0.57
+Virginia	-0.26	0.74
+Duke	-0.28	0.39
Rutgers	-0.29	0.77
+Northwestern	-0.30	0.48
Alberta	-0.31	0.34
Southern California	-0.34	0.42
Florida	-0.51	0.31
Howard	-0.52	0.37
Michigan State	-0.53	0.27
+Kansas	-0.54	0.24
Arizona State	-0.56	0.26
+Iowa	-0.60	0.22
Calif., San Diego	-0.65	0.19
+Johns Hopkins	-0.70	-0.06
+McGill	-0.80	-0.25
Maryland	-0.83	0.12
+MIT	-0.88	-0.15
Syracuse	-0.88	-0.12
Louisiana State	-0.89	0.03
Western Ontario	-0.89	-0.27
Hawaii	-0.97	-0.25
Connecticut	-0.99	-0.23
Wayne State	-1.00	-0.26
Boston	-1.01	-0.16
Calif., Santa Barbara	-1.05	-0.11
Georgetown	-1.07	-0.20
Texas A&M	-1.08	-0.20
Laval	-1.16	-0.75
Purdue	-1.18	-0.62
Kentucky	-1.19	-0.33
New Mexico	-1.19	-0.27
Houston	-1.19	-0.35
+Missouri	-1.20	-0.37
+Washington, St. Louis	-1.20	-0.38
Emory	-1.20	-0.46
+Nebraska	-1.22	-0.52
+Cincinnati	-1.26	-0.35
Brigham Young	-1.26	-0.55
South Carolina	-1.27	-0.60
Massachusetts	-1.28	-0.76
Temple	-1.29	-0.57
Utah	-1.29	-0.63
Vanderbilt	-1.30	-0.58
VPI	-1.31	-0.33
+Iowa State	-1.32	-0.58
Colorado	-1.32	-0.59
Waterloo	-1.32	-1.08
Southern Illinois	-1.34	-0.51
York	-1.36	-0.63
+Brown	-1.36	-0.62
+Rochester	-1.37	-0.54
Miami	-1.37	-0.60
Florida State	-1.44	-0.65
Washington State	-1.44	-0.74
SUNY Stony Brook	-1.45	-0.69
Queen's	-1.46	-0.97
Delaware	-1.47	-0.77
Tennessee	-1.48	-0.79
Manitoba	-1.49	-0.91
McMaster	-1.49	-1.00
Calif., Irvine	-1.50	-0.60
Georgia Tech	-1.52	-1.02
Tulane	-1.52	-0.77
+Dartmouth	-1.55	-0.99
Oklahoma	-1.58	-0.88
North Carolina State	-1.59	-0.76
Oregon	-1.60	-1.11
Colorado State	-1.65	-1.06
Alabama	-1.71	-1.07
Guelph	-1.75	-1.52
Notre Dame	-1.75	-1.24
Calif., Riverside	-1.82	-1.08
Kent State	-1.87	-1.35
SUNY Albany	-1.91	-1.16
Case Western Reserve	-1.96	-1.36
Saskatchewan	-1.97	-1.38
Oklahoma State	-2.19	-1.55

+ Charter university library member of ARL
The following member libraries are not included: +Indiana, +Michigan, Pittsburgh, Rice, SUNY Buffalo

1 Index calculated using five variables, 1984-85 data (unrevised)
2 Index calculated using ten variables, 1984-85 data (revised)

Appendix 3

COMMITTEE ON ARL MEMBERSHIP

Charge

The Committee on ARL Membership is an ad hoc committee, to be convened when matters arise requiring its attention. It is charged to:

1. Review qualifications of potential members, both university and nonuniversity, and recommend appropriate action to the Board.

2. Review policy matters pertaining to membership criteria and procedures.

3. If necessary, initiate investigation or request clarification of inconsistencies in data submitted by potential member libraries.

The committee will be chaired by the current Past President and will comprise not less than three members appointed by the Executive Committee. When a nonuniversity library is to be considered for membership, at least one member of the committee should be a respresentative from a nonuniversity member library.

Adopted by ARL Board of Directors
May 1987

Appendix 4

PROCEDURES FOR CONSIDERATION OF NEW MEMBERS*

I. Procedures

A. University Libraries

1. The ARL Office makes an initial review of the data submitted by an institution when it is being considered for membership. These data include:

a. The number of fields in which its parent institution awards the Ph.D. degree

b. Statistics for the most recent four years in the categories that comprise the ARL membership criteria index

If, after this initial review, an institution notifies the ARL Office that it wishes to become a formal candidate for membership, the ARL Office asks the candidate library to provide copies of data submitted for other surveys, such as the ACRL/CARL and HEGIS/IPEDS surveys, which cover any part of or all of the same four-year period, and for other documentation relevant to the review.

2. The Membership Committee and the ARL Office review the candidate library's data for internal consistency, with particular attention to significant increases in data from year to year and inconsistencies within a given year, and with data submitted by other libraries. The data are compared with data submitted by the library to other surveys, including published data. If there are significant or unusual variations in the data submitted to ARL, or inconsistencies with data submitted to other surveys, the ARL Office will seek clarification from the library. The committee then prepares a report to the Board on the candidate library for review and action.

3. The ARL Board of Directors reviews the report of the Membership Committee, seeks additional information or clarification if needed, and prepares a recommendation for membership action as to whether or not to extend an invitation to join the Association.

4. The ARL Membership acts on the recommendation of the Board.

5. The ARL Office informs the candidate library of the membership's action.

B. Nonuniversity Libraries

1. The ARL Office makes an initial review of the data and supporting documentation submitted by an institution when it is being considered for membership. These are enumerated in the "Statement on Qualification for Membership in the Association of Research Libraries."

*Note: All institutions that, after the initial review, notify the ARL Office that they wish to be formal candidates for membership will be required to pay a non-refundable processing fee of $1000.00.

2. If, after this initial review, an institution notifies the ARL Office that it wishes to become a formal candidate for membersip, the Membership Committee and the ARL Office review the candidate library's data and compare them with data from appropriate ARL nonuniversity library members. If necessary, the ARL Office seeks clarification from the library. The committee then prepares a report to the Board on the candidate library for review and action.

3. The ARL Board of Directors reviews the report of the Membership Committee, seeks additional information or clarification if needed, and prepares a recommendation for membership action.

4. The ARL Membership acts on the recommendation of the Board.

5. The ARL Office informs the candidate library of the membership's action.

II. Appeals

1. Libraries which were considered but not invited to join may request that the decision be reconsidered.

2. If a reconsideration is requested, the President will appoint an ad hoc committee of three members, one from the current Board of Directors (who will serve as chair) and two ARL library directors, neither of whom is a current Board member.

3. The ad hoc committee will be charge to:

   a. Review the documentation and the request for reconsideration, and request any further pertinent information. If necessary, or if requested by the candidate library, the committee may arrange to meet with representatives[s] of the candidate libary. In such event, the representative[s] of the candidate library will be afforded a reasonable opportunity to present that information deemed relevant to consideration of the candidate's qualification for membership.

   b. Prepare a report to the Board with a recommendation for further action.

Adopted by ARL Board of Directors
May 1987

Appendix 4 - Part 2

Reporting Library: _____

Contact person: _____ Title: _____

Phone: _____ Date submitted to ARL: _____

Number of fields in which Ph.D.s can be awarded at parent university: _____

1. Number of volumes held:

June 30, 1983	June 30, 1984	June 30, 1985	June 30, 1986

2. Number of volumes added during the year:

June 30, 1983	June 30, 1984	June 30, 1985	June 30, 1986

3. Number of current serials received:

June 30, 1983	June 30, 1984	June 30, 1985	June 30, 1986

*4. Total expenditures:

1982-83	1983-84	1984-85	1985-86

5. Number of professional plus nonprofessional staff:

1982-83	1983-84	1984-85	1985-86

* Please supply figures in U.S. dollars. The conversion rates in Canadian dollars to one U.S. dollar are:

1982-83:	1.2349
1983-84:	1.2548
1984-85:	1.3388
1985-86:	1.3817

(Divide Canadian dollar amounts by the rate given for each year to determine U.S. dollar amounts.)

Appendix 5

MEMBERSHIP INVITATION LETTER

Dear [**Library director**]:

The Members of the Association of Research Libraries considered the potential membership of **[library]** at their meeting on **[date]**, and voted affirmatively. Therefore, on behalf of the Board of Directors and Membership of the Association, I am pleased to invite **[library]** to become a member of ARL.

ARL membership is maintained on a calendar year basis. If **[library]** accepts our invitation, therefore, your membership will begin as of January 1 of this year. If this is acceptable to you, please let me know so that an invoice for the **[year]** dues can be prepared. ARL dues for **[year]** are **[amount]**[, payable in U.S. dollars].

The requirements of membership in the Association are as follows:

1. Members must contribute the data necessary to establish the membership criteria and to compile the annual ARL Statistics.

2. Members must continue to meet the requirements for membeship as stated in this "Statement of Qualifications for Membership in the Association of Research Libraries." University libraries are required to maintain an index score of at least -2.25. Membership status of nonuniversity libraries will be reviewed periodically.

3. Members are expected to be represented at meetings of the Association by the chief librarian.

4. Members must pay all dues and assessments voted by the membership.

5. Members are expected to participate in the affairs of the Association.

Upon receipt of your letter of acceptance, the ARL Office will send background information on ARL and its recent activities and the appropriate numbers of ARL publications provided to members. The ARL Office of Management Studies will also be in touch with you concerning appointment of a staff liaison for receiving OMS publications and contributing to OMS surveys.

The next ARL meeting will be held in **[place]** on **[dates]**. Information about the meeting and hotel reservations forms will be mailed to members a few months prior of the meeting. The Association holds an orientation session for new member libraries and new library directors each year in conjunction with the October meeting; we will send you an invitation to this session in advance of the meeting.

I look forward to hearing from you and to your participation in the Association of Research Libraries.

Yours truly,

Shirley Echelman
Executive Director

APPENDIX E

ACTIVITIES REPORT

Association of Research Libraries
November 1986 - April 1987

The last six months at the ARL Office have been extremely busy as we have sought to provide support for a range of committee-generated activities and programs and to respond to an extraordinary series of policy challenges for libraries and librarians at the national level.

Federal Relations

ARL presented testimony at appropriations hearings in both Houses of Congress on behalf of the Library of Congress, the GPO Depository Library Program, the National Endowment for the Humanities, and the Higher Education Act. Our testimony on the first three programs has been summarized in the ARL Newsletter, the HEA testimony was presented on April 29 and will be summarized in a later issue of the Newsletter.

Other Testimony. In addition to the appropriations hearings, representatives of the Association presented testimony at hearings concerned with computer security and access to "sensitive" information, an appropriate federal role in solving the problem of brittle books, the privatization of NTIS, the second five-year review of the Copyright Law, and pilot projects for delivering government information in electronic form to the depository library system. These presentations have also been summarized in the Newsletter.

Frequent formal and informal communications with individuals is an important part of effective federal relations. The continuing high level of response and interest from directors and staff of member libraries has been both gratifying and helpful, and we have also been pleased with the support and interest of a number of higher education and scholarly organizations.

The issues of privatization of government information and restrictions of access by designating some information as sensitive without classifying it have raised the interest of the press, and articles have appeared in the daily and weekly general press, as well as in the Chronicle of Higher Education. We will continue to monitor these issues very closely and to keep the membership and others informed.

IRS Regulations. In December, we reported to you in the Newsletter on the proposed new IRS regulations on lobbying by non-profit associations (ARL Newsletter No. 133). These regulations would have limited severely the ability of non-profit associations to inform their members and others about public policy issues, and would have been applicable retroactively for ten years. On April 9, the IRS announced several decisions that will eliminate much of the chilling effect of

their former proposals. They agreed that the final rules will not be retroactive, that foundation grants received prior to the final rules will not be affected, that they will take steps to involve interested parties in deliberations about the rules, and that their field agents will be informed that the proposed rules have no legal authority in the conduct of audits.

The IRS acknowledged that there have been a substantial number of comments with respect to these proposed rules, and will consider whether to revise some or all of their proposals. In essence, IRS is allowing non-profits to continue doing business in the manner that they have been until new rules are developed. These actions are a significant step toward resolving this issue, and are clearly the result of a significant grassroots effort to force IRS to withdraw the proposed rules. However, the battle has not yet been won, since IRS has not yet agreed to alter the substance of the proposed rules, but only to "carefully consider" the comments. We will, of course, continue to keep you informed.

Library of Congress. In December, Librarian of Congress Daniel J. Boorstin announced his retirement. ARL hosted a reception for Dr. and Mrs. Boorstin on February 2. Guests at the reception included Senators and Representatives, Congressional staff members, senior Library of Congress staff, members of the ARL Board, and leaders from the Federal government, higher education, and library communities. Later in February, ARL President Ted Johnson wrote to President Reagan outlining ARL's perceptions of the challenges facing the Library of Congress and the qualifications that the next Librarian will need to have in order to lead the Library in the next decade. This letter elicited an invitation to discuss our concerns and perceptions further, and on March 6, Ted and I met for an hour with Susan Phillips, Associate Director for Presidential Personnel.

From the time of Dr. Boorstin's announcement, I have felt strongly that the library community would be served best if we could come to agreement on qualifications for the Librarian of Congress, strategies for making our views effective in the nomination process, and candidates for the position. We worked hard to make this happen; and while we were not entirely successful, the executive directors of the major library associations did maintain very close and useful contact with one another during the ensuing months. In addition, ARL was successful in gaining endorsement for Ted's letter to the President from the Consortium of Social Science Associations, the National Federation of State Humanities Councils, and the National Humanities Alliance. These endorsements were conveyed to the White House, and added force to ARL's position.

On April 17, the President indicated that he intended to nominate Dr. James H. Billington, Director of the Woodrow Wilson Center of the Smithsonian Institution, as the thirteenth Librarian of Congress. Dr. Billington is an historian and authority on the Soviet Union, and has been head of the Wilson Center since 1973. Dr. Billington's nomination must be confirmed by the Senate, and the responsibility for confirmation hearings lies with the Rules Committee. No hearing dates have been set as yet, but it is expected that they will take place within the next 2-3 months.

Copyright. The Copyright Office held hearings on April 8-9 to review Section 108 of the 1976 Copyright Law. These hearings were in preparation for issuance of the second five-year report on the issue of balance between the rights of copyright owners and the needs of users in regard to reproduction of copyrighted works. The general consensus of witnesses was that a statutory balance is being achieved, but that the implications of new technology should be examined by the Copyright

Office. In presenting ARL's testimony, I took the opportunity to inform the Register and his staff about the crisis situation in regard to foreign journal prices. I stated that large-scale cancellation programs are inevitable, and that some journals may die as a result. Publishers may respond by complaining that cancellations result from unwarranted making of photocopies by libraries in lieu of purchase, but I urged the Copyright Office to be very wary of such accusations, since the culprit will not be photocopying, but the publishers' own pricing policies.

Other Activities

The ARL Statistics was mailed to ARL directors on April 24, along with the annual report on library expenditures as a percentage of university expenditures. Production of the Statistics took longer than usual this year. The questionnaire included additional data elements, and most libraries were unable to meet the October 15 deadline. At the same time, the ARL Office instituted new verification and editing procedures for the data submitted, and these generated a substantial number of telephone calls to member libraries (we estimate that we had to call almost every member once, and many two or more times). Finally, because of the new data elements and the new checking procedures, the processes for preparing the data and producing the publication were revamped entirely, necessitating a substantial amount of programming, debugging etc. At this time we anticipate that there will be no changes to the statistics questionnaire for 1986-87, so we expect production of next year's Statistics to be much smoother and timelier.

Our primary focus, in the Statistics area, has been on the regular Statistics and the Salary Survey. With both of these publications now out, work has begun on the preparation and analysis of the law and medical library data and the supplementary statistics. We plan to have reports on these data ready during the summer.

ARL Recon Project. The Committee on Bibliographic Control, with staff assistance, has evaluated the two-year pilot program and prepared a report with recommendations for future action by ARL. These recommendations will be reviewed by the Board and the membership at the May Meeting. The participants in the Technology project have completed a funding proposal, which was sent to ten corporate foundations for consideration. Unfortunately, none of these submissions has proved successful. From this experience and others about which we have learned recently, it appears that retrospective conversion may not have a great deal of appeal to private foundations. If the Recon Project continues, we will need to concentrate on the development of funding sources.

The Guide to Preservation Microfilming, a joint project of ARL and the Northeast Document Conservation Center, is now in the final stage of production. This authoritative guide for libraries and archives is being published by the American Library Association Publishing Services Division. ARL delivered the manuscript to ALA early in the Spring and it is expected that the Guide will be available by the end of the year.

Office of Management Studies. OMS activities, including the management of NCIP and the NEH-funded Preservation Planning Studies, are covered in Duane Webster's report to the ARL Board, which is attached to this report for the information of all ARL directors.

Member Relations. Communications with the ARL membership continue to provide the ongoing interweaving and refinement of your concerns and the work of ARL staff that characterize this Association and, in large part, make working for ARL both a rich and a complex experience. In addition to formal communications media -- newsletters, memoranda, legislative updates, etc. -- there is a constant two-way flow of information and opinion via mail, telephone, and, more recently, electronic mail. Also, both OMS professional staff and I spend a great deal of time on the campuses of ARL institutions. Since last October, I have visited the following member libraries: Indiana and the National Agricultural Library (November); Chicago (January); McGill and Wayne State (March); and Michigan State, Dartmouth, and Iowa (April). These visits continue to extend my appreciation for the contributions ARL libraries make to the intellectual and educational life of the U.S. and Canada, and I continue to be extremely grateful for these opportunities.

Shirley Echelman
Executive Director
April 27, 1987

OFFICE OF MANAGEMENT STUDIES

ASSOCIATION OF RESEARCH LIBRARIES 1527 New Hampshire Avenue, N.W., Washington, D.C. 20036 • (202) 232-8656

April 20, 1986

To: ARL Board of Directors

From: Office of Management Studies (OMS) /Jane Bortnick

Re: Status of OMS Programs
October 1986 - April 1987

This report is organized around OMS activities in three areas: (1) operation of separately funded projects, (2) core programs supported with ARL dues and revenue from sale of services and publications and (3) Office assistance provided to ARL committees.

1. SEPARATELY FUNDED PROJECTS

A. **National and Regional Cooperative Collection Development Program:** In June 1984 the Andrew W. Mellon Foundation funded a three year project to continue the work of Phases I and II of the North American Collections Inventory Project (NCIP). The $220,000 grant supports the development of training resources, a materials distribution center, and the support system needed to coordinate the participation of ARL libraries in NCIP.

During the past 6 months project staff continued to provide training to libraries beginning their participation in NCIP. In addition two issues of NCIP News were published and distributed; an NCIP User Group was formed and held an initial meeting at ALA Midwinter; revised worksheets for Mathematics were distributed; Supplemental Guidelines for Mathematics and for French Languae and Literature were made available; revisions to all divisions of the Conspectus were assigned and scheduled; and a regional workshop was designed for a group of libraries in Georgia. Current efforts emphasize: facilitating continued participation by ARL member libraries in the project and the development of resources intended to increase use of the Inventory, both as a public service tool and as a tool to support cooperative decision-making.

B. **National Endowment for the Humanities/Preservation Planning Studies:** This project drew to a close in December 1986. Ten ARL member libraries participated in the Preservation Planning Program as part of the two-year demonstration project funded by a $65,375 grant from the National Endowment for the Humanities. These libraries - the State University of New York/ Stony Brook, Colorado State University, the Center for Research Libraries, Iowa State University, University of Missouri/Columbia, Northwestern University, Ohio State University, Smithsonian Institution, University of Tennessee, Knoxville and the University of Oregon have completed studies, and their final study reports are now available from the OMS.

A supplemental grant of $13,000 received from NEH allowed the design of two new modules for the Preservation Planning Program (User/Staff Education and Institutional Cooperation) and updating of the Preservation Resource Notebook.

2. CORE OMS PROGRAMS

There are four ongoing programs comprising the core of the OMS services and resources for ARL members: (A) a research and development program intended to design new services and to support research projects, (B) library developmental self-studies within the Academic Library Program, (C) survey and exchange information on library practices (Systems and Procedures Exchange Center) and (D) training and staff development support to research libraries. These core programs are supported with fees from the sale of services and an annual allotment from ARL membership dues.

A. Research and Development Program

1. A proposal for a third Institute on Research Libraries for Library and Information Science Faculty: After reviewing the results of the second institute which was held in August 1986, the ARL Committee on Management of Research Library Resources recommended that the OMS develop and submit to the Council on Library Resources, Inc. a proposal to conduct a third institute. The new proposal seeks $45,000 to select twelve faculty to conduct field visits at ARL member libraries and participate in a two-week seminar in 1988. The central purpose of the institute is to enrich library educators' understanding of research library issues and to further influence the future preparation of research librarians.

2. A proposal for a preservation administrator training program: At the request of the National Endowment for the Humanities a proposal for helping research libraries establish a preservation program was prepared by OMS staff, reviewed by the Management and Preservation Committees and approved by the ARL Board. After submitting the proposal in May 1986, the Endowment asked the OMS to resubmit the proposal after building in added options for securing academic training. A revised draft proposal was submitted in January 1987. The core idea of the proposal remains to provide member libraries assistance in identifying an appropriate person to receive academic preparation in the preservation administration area and subsequently to complete a preservation planning program within the library drawing upon the enhanced capabilities of the preservation officer.

3. A proposal for Managing Technology Transition in Research Libraries: Upon the advice of the ARL Committee on Management of Research Libraries, OMS staff reworked the earlier developed proposal on designing a technical services program to address the need to manage technology transition more effectively. The new proposal contains three elements: the design of an analytical process to assist technology application in academic research libraries, sponsorship research projects on technology application in these libraries, and development of resources to help libraries make good use of available technology. The proposal seeks $173,000 over two years.

4. Participation in the EDUCOM/Tufts Data-Sharing project: A data-sharing test is being conducted with EDUCOM and Tufts University. Initially, 14 ARL member libraries are working with the Systems and Procedure Exchange Center in an effort to relate library and university planning. The project's goal is to identify the most useful trend

indicators, peer comparisons, and other management ratios that can be derived from available information on library and institutional characteristics.

5. **Managing the Learning Process Institute:** A new training program is being developed by the OMS training staff for operation this year. This program is intended to help prepare research library staff with training roles and responsibilities to better plan, design, conduct and evaluate library staff training efforts. The Institute is scheduled for August 9 - 12, 1987 in Baltimore, Maryland. The Johns Hopkins University Library will host field training projects by participants.

6. **Financial Management Skills Institute:** Plans are underway to design a finanical management skills institute to be held sometime in 1988. This institute will examine skills related to managerial accounting, fiscal control, budgeting, reallocation, cost analysis, and developing accountability.

7. **A Management Information Service:** Discussions are underway examining the possibility of establishing a process for interested libraries to use in examining critical issues by gathering data on operations and applying that information in an analytical fashion to management decision-making. The service would provide assistance in targeting issues, designing data dathering methodologies, establishing normative benchmarks, analyzing information, and determining appropriate action.

8. **A Study of Professional Staff Turnover in Research Libraries:** As part of the ARL Committee on Management of Research Library Resources concern with improving their understanding of the demographic chararcteristics of research library staff, a study of professional staff turnover is being conducted. Jim Neal from Pennsylvania State University Library is conducting the work. Over 70 ARL member libraries have responded to a survey on retirement and turnover patterns which was distributed in Feburary 1987. A report on survey results is expected by Summer.

9. **A management literature review and reporting service:** The ARL Committee on Management of Researh Library Resources asked the OMS to investigate the feasibility of a management literature review and reporting service. Preliminary discussions of this idea will be held at ALA June Conference with selected business school librarians.

B. Academic Library Program

During this period, fourteen projects were in various stages of operation by ARL members:

* **Preservation Planning Program Studies:** Pittsburgh, Wisconsin

* **Public Services Studies:** Dartmouth, York, and McGill

* **Leadership Development Program:** Buffalo, Chicago, Massachusetts Institute of Technology, Ohio State, Southern California, Toronto, and Yale.

Consultative assistance is being provided the National Library of Canada on its organizational renewal project, which is concerned with identifying and implementing new approaches to communication and decision-making, and with further developing its national role in preserving the Canadian cultural heritage as well as its role in facilitating and coordinating library programs involving and affecting libraries throughout Canada. A major part of this project is the design of a comprehensive program for the training and development of the library's supervisory and management.

OMS is working with the National Agricultural Library in a management review and planning effort aimed at developing a productivity improvement plan for the library. This assistance includes helping the major divisions complete management studies that provide descriptive and analytical data required for defining potential areas for productivity shifts in the future.

C. Systems and Procedures Exchange Center

During this period, six SPEC Flyers and Kits were produced: Optical Disc Technology (April), Library-Scholar Communication (March), Collection Development Organization and Staffing (February), Retrospective Conversion (January), Organization Charts (November-December), and Systems Office Organization (October).

The Automation Inventory of ARL members is being simplified for updating by ARL member libraries for the third annual edition. A report on expenditures for automation was sent to ARL members in March 1987, and two directors have requested peer group comnparisons as special reports from SPEC.

D. The Training and Staff Development Program

During this period the following training events were conducted:

- A sponsored Advanced Management Skills Institute - University of Florida
- A sponsored basic Management Skills Institute - University of Nebraska
- A public Analytical Skills Institute - Baton Rouge
- A sponsored Basic Management Skills Institute - University of Texas, Arlington
- A public Basic Management Skills Institute - Scottsdale

The 1987 schedule of public Management Skills Institutes includes:

Basic Management Skills Institutes

May 19-22, 1987	Washington, D.C.
October 13-16, 1987	Chicago, Illinois

Advanced Management Skills Institutes

November 8-13, 1987	Phaladelphia, Pennsylvania

Analytical Skills Institutes

June 2-5, 1987	Syracuse, New York
December 1-4, 1987	Honolulu, Hawaii

Managing the Learning Process Institute

August 18-21, 1987	Baltimore, Maryland

A second **Management Institute for Assistant and Associate Directors in ARL Libraries** will be held June 7-10, 1987 in Asilomar, California.

The **Management Institute for ARL Directors** was rescheduled from February 1987 to September 16 - 19, 1987. The Institute will cover conflict management and negotiation methods, teambuilding and effective use of groups, and developing and fostering a positive organizational culture.

3. OMS STAFF WORK WITH ARL COMMITTEES

A. **ARL Committee on Management of Research Library Resources:** The committee reviewed OMS program priorities for 1986 and 1987 at a meeting on January 22, 1987. The committee established developmental priorities for the 1987 OMS schedule. The committee also reviewed the 1986 expenditures and income for the OMS. Income for the year was $613,400 (including separately funded projects) while expenditures were $610,000.

B. **ARL Collection Management Committee:** The committee reviewed progress on the North American Collections Inventory Project which is operated in cooperation with this Committee.

C. **ARL Statistics Committee:** SPEC kits on Management Information Statistics and The Automation Inventory are being developed in cooperation with the committee. SPEC and the Committee also are collaborating with a library growth project at Lister Hill Center, NLM, that is investigating library automation expenditures.

D. **ARL Preservation Committee:** In response to a Preservation Needs survey, the Committee has asked SPEC to assist in gathering and distributing information through SPEC kits and occasional papers to meet expressed needs.

E. **ARL Task Force on Association Responsiveness:** Staff assistance is being provided this group in setting up a review of ARL membership meetings and governance procedures.

OMS

1986
Annual Report

[EXCERPTS]

Duane E. Webster, Deputy Executive Director,
Association of Research Libraries
and Director, Office of Management Studies

Jeffrey J. Gardner, Associate

Susan R. Jurow, Program Officer for Training

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Maxine K. Sitts, Information Services Specialist

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202-232-8656

Introduction

In a useful new management book entitled "The Transformational Leader", Noel Tichy and Mary Anne Devanna argue the importance of strategically preparing for the future. The essence of this preparation is recognizing the need for revitalization, creating a new vision, and institutionalizing the changes. The ARL Office of Management Studies (OMS) provides the methods, information, and training to help leaders realize these essential elements in research libraries.

Thinking and planning strategically is a well known avenue for success for academic research libraries. Anticipating and influencing prospective developments are natural competencies of successful and durable library leaders. The distinctive aspect of today's strategic planning is orchestrating the processes for involving significant constituencies in thinking imaginatively about the future of the research library.

The OMS provides support for these strategic efforts. This support comes in part through the inculcation of a management philosophy centered around involving people in decision-making and developmental efforts. Such involvement can lead to better judgements and greater commitment to the resulting policies and programs. It also contributes to a more active and able staff.

The Office also provides support by making available methods and techniques for studying issues, collecting and distributing information on changing operational practices, and enhancing the personal skills of the staff comprising research libraries today. These methods and techniques are used by a variety of research libraries whose leaders display a range of management philoshopies and expectations for the future.

In 1986, the use of OMS planning and developmental services by diverse institutions preparing for unique futures was well illustrated in the new Leadership Development Program. This program, developed orginally with the Yale University Libraries, is a strategic planning process involving twenty to thirty senior library managers. The program is comprised of a three-day retreat. At this retreat, line administrators examine historical factors shaping the library; major external forces that are serving to change the environment and the technology that are central to the future of libraries; and alternative projections of the next ten years of research library services, programs and relationships with users. One product of these discussions is a two-page description of a "vision" for library growth and development. In addition, priority areas for short-range attention are identified and ideas for acting in these areas are prepared.

During 1986, three libraries, Ohio State University, University of Southern California, and State University of New York/Buffalo, applied this process to their situations. On occasion, university administrators joined groups to share their estimates of university issues and expectations of environmental changes. In some instances, documents were drafted for subsequent review and refinement. In other settings, intervals were scheduled between the preparation of the "vision" statement and the development of key result areas.

While the process and the products vary from one library to the next, each of the Leadership Development Programs was characterized by active involvement of line managers in thinking about the future from a strategic point of view. All programs result in documents that can serve to communicate to and influence other constituencies. And all programs include facilitation and training assistance provided by the OMS staff.

Further applications and interpretations of this planning assistance are expected in 1987. Several libraries will use OMS expertise in designing a planning process. Other libraries want more of a traditional consulting arrangement where advice on programmatic concerns is provided by OMS staff. The use of the self-study technique is preferred by those libraries seeking more intensive analysis of program concerns and the extensive involvement of representative staff in the improvement process. The success of these planning efforts hinge on the readiness and response of people in research libraries. The OMS staff, in turn, are continually adjusting established services and adding new capabilities in order to meet the contemporary realities of research libraries.

Effective planning also requires up to date information. In the information clearinghouse services provided by the OMS Systems and Procedures Exchange Center, for example, 1986 was a year of active investigation of current issues affecting research libraries. Ten SPEC Flyers and Kits were produced covering topics such as: bibliographic instruction, microcomputer software policies, barcoding of collections, and automated library systems. These topics were studied by staff from research libraries working with OMS staff and generally encompased surveys of operating practices in ARL members. In addition, SPEC staff conducted eleven on-demand investigations sponsored by member libraries.

Planning and development processes require sophisticated and highly skilled staff. The OMS training program responds to these changing member needs in this regard. In addition to conducting eight public institutes covering basic, advanced, and analytical skills for research library managers, office staff conducted ten sponsored institutes. The OMS staff also designed a new training program aimed at the specific interests of assistant and associated library directors. Each of these institutes is conducted by an OMS staff member working with select staff from research libraries serving as co-trainers, further enhancing the experience and skills of available research library managers.

Some authorities predict an electronic future for research libraries. Other experts suggest that new structures and agencies will supplant research libraries. And still others urge caution in predicting radical shifts in the traditional scholarly modes of behavior and the institutions that serve those needs. These predictions hold little significance, howvever, unless they are translated to specific library situations. Understanding future prospects for the individual research library and the implications of current decisions on shaping this future is the challenge facing library leadership.

While the established OMS programs are responding to current needs and interests of ARL members, there is also a need to consider new intitiatives that may be useful in the future. Monitoring the changing interests and needs of ARL member libraries in the management arena is a principal responsibility of the ARL Committee on the Management of Research Library Resources. This committee works closely with the OMS staff and determines the OMS priorities for developmental efforts. These priorities include developing a library-based management information system, a financial management skills institute, a technology adaptation process, and a managing the learning process institute.

This was an active and exciting year for the OMS. Further evidence of the readiness of research libraries to embark on a transformation process was abundant. The established OMS programs were enhanced and adapted to member interests. New activities were started. This ongoing work described in the annual report, reflects a continuing goal of the Office of Management Studies: to help research libraries enhance their performance through improved management.

—Duane E. Webster

The Office of Management Studies

The Office of Management Studies (OMS) was established in 1970 to help research and academic libraries develop better ways of managing their human and material resources, and to work with them in determining how best to meet the needs of their clientele in a dramatically changing information age. To achieve these ends, OMS provides training for library managers and staff members; offers consultation and assisted self-study services; and publishes a wide range of materials for administrators focusing on management techniques, the introduction of new technology, and staff development

Established with support from the Council on Library Resources, OMS has received funding from a variety of sources since 1970. These include The Association of Research Libraries, Council on Library Resources, Andrew W. Mellon Foundation, General Electric Foundation, National Endowment for the Humanities, Lilly Endowment, Inc. and H.W. Wilson Foundation. Ongoing services and publications are supported by user fees. Guidance is provided by the Association of Research Libraries' Committee on the Management of Research Library Resources and other project-related advisory groups.

Current, practical issues of library operations and management are the foundation of ongoing OMS activities. Collection management, preservation, technology application, and public services development are among the service areas OMS has developed to assist libraries in maintaining their roles as information centers for higher education and the scholarly community and as preservers of the nation's heritage.

ARL Committee on the Management of Research Library Resources

The Association of Research Libraries' Committee on the Management of Research Libraries oversees the planning and implementation of personnel, staffing and management objectives of the ARL Plan of Action. It coordinates ARL's efforts to provide the analytical capabilities required for member libraries to effectively manage their resources. To accomplish this coordination, the Chair of the Committee on ARL Statistics serves ex-officio as a member of the committee. In particular, the Committee on Management:

—monitors research in management-related areas and identifies problems, issues, and opportunities facing research libraries that should be addressed through the application of management methods and/or quantitative analyses, and makes recommendations to the ARL Board on policies, programs and positions;

—relates the work of ARL standing committees and task forces in the areas of statistical information and organizational and staff development to the overall needs in management, and keeps the committees and task forces informed of each other's work;

—oversees and advises on the work of the ARL Office of Management Studies; specifically assists in the development of management programs and activities to meet the needs of ARL member libraries and in securing the financial resources needed to support these activities; assesses OMS performance in achieving its goals and the effectiveness of its programs; and recommends OMS policy and program priorities to the ARL Board;

—coordinates, where appropriate, ARL's work in the area of management with that of other national organziations and ensures, with the approval of the Board, that necessary liaisons between these organizations and ARL standing committees are in place.

Committee Members

Joan Chambers, Chair (1986)
Director, Colorado State Library

Ellen Hoffman (1987)
Director, York University Libraries

Herbert F. Johnson (ex officio as Chair of Committee on ARL Statistics)
Director, Emory University Library

Sul H. Lee (1986)
Dean, University Libraries, University of Oklahoma

Philip E. Leinbach (1988)
Librarian, Tulane University

Jay K. Lucker (1987)
Library Director, Massachusetts Institute of Technology

Susan K. Martin (19867)
Librarian, Johns Hopkins University

Carlton C. Rochell (1988)
Dean, University Libraries, New York University

Brief Summary of Activities in 1986

During 1986, the Office of Management Studies was fully staffed, programs operated at a high level of participation, five separately-funded projects were operated, and evaluations by participants in training and development programs were uniformly positive. Highlights of yearly activities include:

Three major, separately-funded projects were undertaken this year:

—Phase III of the North American Collections Inventory Project (NCIP) sponsored by the Andrew Mellon Foundation;

—the second Institute on Research Libraries for Library School Faculty, sponsored by the Council on Library Resources;

—and the final year of the Preservation Planning Program Deomonstration Studies, funded by the National Endowment for the Humanities.

Two smaller projects, also separately funded, were undertaken as well:

—an update of the Preservation Planning Program study manual and resourcenotebook, funded by the National Endowment for the Humanities;

—and a collaborative effort with the Lister Hill Center to gain better information on automation expenditures by research libraries. OMS coordinated eleven library-based self-studies as part of the Academic Library Program. These included two collection studies, five public services studies, one Academic Library Development Program study, two preservation studies and one small library planning study. In addition, the ten self-studies comprising the NEH-funded Preservation Planning Program were completed.

The Systems and Procedures Exchange Center issued ten SPEC Flyers and Kits. Topics covered organization charts, systems offices, interlibrary loan, automated library systems, technical services cost studies, barcoding of collections, microcomputer software policies, end-user searching services, bibilographic instruction, and exhibits. Over 400 SPEC subscriptions were maintained and over 7000 SPEC Kits were distributed.

Working with the Yale University Library staff, OMS designed a new Leadership Development Program which was adapted to the needs of three member libraries: Ohio State University, The State University of New York at Buffalo, and the University of Southern California. This program is now part of the ongoing Academic Library Program.

The training staff conducted six public and eight sponsored management institutes. Seventeen special focus workshops and presentations were completed and a new Management Institute for Assistant and Associate University Librarians was designed and conducted. Over 300 library staff participated in the management institutes.

In the research and development area, a number of new ideas for services and projects were investigated:

—management literature review service

—financial management skills institute

—managing the learning process institute

—technical services study

—management information services

—study of democgraphic characteristics of library staff

—study of professional staff turnover.

The OMS staff worked with five ARL committees and task forces throughout the year, contributed to the design and conduct of the Fall ARL membership meeting, and assisted in the updating and format revisions for the ARL Strategic Plan.

The OMS Director assumed the role of Deputy Executive Director of the Association of Research Libraries.

Priorities for 1987

In collaboration with the ARL Committee on Management of Research Libraries, OMS prepares a detailed proposal of activities for the upcoming year. Drawing from that report, OMS plans to pursue the following activities in 1987.

OMS expects to maintain the current level of effort in the self-study, information clearinghouse and training programs. In addition, a separately funded project will be operated as part of the research and development program: The Mellon/North American Collections Inventory Project Phase III.

Research and Development

Priorities for 1987 in this area include separately-funded projects, efforts to start new projects and OMS assistance to research projects operated by other agencies and libraries. A primary R&D goal is the completion of Phase III of the North American Research Collections Inventory Project (NCIP). Activities will include providing training to participant libraries, developing assessment tools, and developing educational materials for public service staff and library users.

A number of new programs are in the planning stages. These include:

1. A Third Institute on Research Libraries—Building on the success of the first two, this institute would be designed to enrich library educators' understanding of research library issues and to study the forces that characterize and influence the current and future state of research libraries.

2. Preservation Administrator Training—OMS has been invited by the National Endowment for the Humanities to submit a proposal to establish a much-needed training program for preservation administrators. Funding received under such a program would be distributed to library schools as well as ARL libraries.

3. Managing Technology Transition in Research Libraries—This program would address the issues related to where libraries stand now regarding the use of networks; shifting automated activities back to local settings; and integrating functions.

4. Management Information Service for Research Libraries—A process would be established to gather data on operations and apply that information in an analytical fashion to management decision-making. The service would provide assistance in targeting issues, designing data-gathering methodologies, analyzing information, and determining appropriate action.

5. Management Literature Review Service—Under consideration is separately-published literature review that would include book reviews. Four librarians have been recruited to produce a sample issue.

Organizational Training and Staff Development

Increasing the effectiveness of the training and development programs will be the focus of this area in 1987. Research on adult education shows that three components are critical to successful learning: motivation, association,and support. Motivation to learn can be amplified by productively exploiting the personal desire for growth. In order to command attention and credibility, programs must mirror organizational reality, and organizations must provide a supportive environment for new behaviors to take hold after a program has been completed.

Training staff will be investigating and developing materials which support and enhance the adult learning process. The key element will be strengthening the links between the participants' experiences in the workshops and their daily organizational settings. Guidelines and documentation will be produced to assist libraries in providing guidance to staff for getting the most out of the workshops they attend.

"Managing the Learning Process," a new Institute to be offered for the first time in 1987, will also address the need for more effective training programs. It is designed to assist academic and research libraries expand their internal capabilities to provide developmental activities for their staff. Participants in this workshop will study contemporary adult learning theories and practice training skills and techniques in laboratory and field study settings.

Current programs will also be maintained, including six major public institutes and six sponsored institutes. Basic Management Skills Institutes are slated for Washington, D.C., May 19-22, and Chicago, October 13-16. One Advanced Management Skills Institute is scheduled for Philadelphia, November 8-13, and one Mangement Skills Institute for AULs is planned for Asilomar, California, June 7-20. Two Analytical Skills Institutes will be held: one in Syracuse, June 2-5, and one in Honolulu, December 1-4.

OMS will also be conducting up to 8 additional Management Skills Institutes on a sponsored basis. These include Management Institutes for Depository Libraries in October and a program at the University of Texas in March.

Up to 15 Special Focus Workshops will be held in 1987, and a Management Institute for ARL Directors will be held September 16-19. In addition, OMS will conduct "Managing the Learning Process" in August.

Academic Library Program

OMS expects to start up to 10 new library studies in the areas of collection, preservation, public service and leadership development in 1987. The Office will continue to provide self-study resources and consultation assistance to individual libraries. Self-study resources will be maintained in the following eight areas:

—Management Review and Analysis

—Academic Library Development

—Collection Analysis

—Planning Program for Small Academic Libraries

—Organizational Screening

—Preservation Program

—Public Services Study

—Leadership Development

Information Exchange and Publications Program

The SPEC clearinghouse will focus on electronic alternatives and enhancements to traditional print-oriented information services. It will refine and operate its heavily-used on-demand survey services and attempt to develop member interest in database services, where appropriate. The clearinghouse will also continue to expand its use of electronic mail for surveys and the distribution of information. Refinement of the Automation Inventory and development of a variety of formats for occasional papers is also planned.

The Systems and Procedures Exchange Center will issue a maximum of six SPEC surveys in 1987, and maintain the SPEC Index with quarterly updates. Ten SPEC kits will be published, as will a selection of position papers, manuals and resource notebooks.

OMS will also develop microcomputer-based information databases for members in conjunction with on-demand surveys and QUICK-SPECs.

The Automation Expenditure Project will continue, collecting and publishing simplified 1987 data. In addition, a data-sharing test will be conducted with EDUCOM/Tufts. Initially, 12 libraries will receive assistance from the OMS Systems and Procedures Exchange Center in a project that will support college and university planning and management. The main goal is to aid libraries in identifying the most useful trend indicators, peer comparisons and other management information that can be derived from a shared database of detailed library and other relevant information on institutional characteristics.

OMS will also work with Association of Research Libraries Committees on collection development, bibliographic control, preservation and statistics projects.

APPENDIX H

ATTENDANCE AT 110th MEMBERSHIP MEETING
Pittsburgh, Pa
May 6-8, 1987

University of Alabama Libraries
Charles B. Osburn

University of Alberta Library
Peter Freeman

University of Arizona Library
Shelly Phipps

Arizona State University Library
Donald Riggs

Boston Public Library
Arthur Curley

Boston University Library
John Laucus

Brigham Young University Library
Sterling J. Albrecht

University of British Columbia Library
Douglas McInnes

Brown University Library
Merrily Taylor

University of California, Berkeley Library
Joseph Rosenthal

University of California, Davis Library
Marilyn Sharrow

University of California, Irvine Library
Calvin J. Boyer

University of California, Los Angeles Library
Russell Shank

University of California, Riverside Library
James Thompson

University of California, San Diego Library
Dorothy Gregor

University of California, Santa Barbara Library
Joseph A. Boissé

Canada Inst. for Scientific & Technical Info.
Elmer V. Smith

Case Western Reserve University Libraries
Susan Coté

Center for Research Libraries
Donald B. Simpson

University of Chicago Library
Martin D. Runkle

University of Cincinnati Libraries
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Clyde Walton

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Joan Chambers

Columbia University Libraries
Patricia Battin

University of Connecticut Library
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University of Delaware Library
Susan Brynteson

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University of Florida Libraries
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Florida State University Library
Charles E. Miller

Georgetown University Library
Joseph E. Jeffs

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David F. Bishop

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Miriam Drake

University of Guelph Library
John Black

Harvard University Library
Dale Flecker

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Not Represented

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Eldred Smith

University of Missouri Library
Thomas W. Shaughnessy

National Agricultural Library
Joseph H. Howard

National Library of Canada
Marianne Scott

National Library of Medicine
Lois Ann Colaianni

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Vija Karklins

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Kenneth E. Toombs

University of Southern California Library
Not Represented

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Kenneth G. Peterson

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Barbara Von Wahlde

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James Myers

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Donald R. Hunt

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Harold W. Billings

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Irene B. Hoadley

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Malcolm Getz

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Paul Gherman

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Kendon L. Stubbs

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Maureen Pastine

Washington University Libraries
Nicholas Burckell

University of Waterloo Library
Not Represented

Wayne State University Libraries
Peter Spyers-Duran

University of Western Ontario Library
Not Represented

University of Wisconsin Libraries
D. Kaye Gapen

Yale University Libraries
Millicent Abell

York University Libraries
Not Represented

0481M

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Albrecht, Sterling	Brigham Young University
Abell, Millicent D.	Yale University
Battin, Patricia	Columbia University
Billings, Harold W.	University of Texas
Bishop, David F.	University of Georgia
Black, John	University of Guelph
Boissé, Joseph A.	University of California, Santa Barbara
Boyer, Calvin	University of California, Irvine
Brynteson, Susan	University of Delaware
Burckell, Nicholas	University of Washington, St. Louis
Campbell, Jerry	Duke University Library
Canelas, Dale B.	University of Florida Libraries
Chambers, Joan	Colorado State University Library
Chapin, Richard	Michigan State University
Colaianni, Lois A.	National Library of Medicine
Coté, Susan	Case Western Reserve University Libraries
Creth, Sheila	University of Iowa Libraries
Curley, Arthur	Boston Public Library
Dougherty, Richard M.	University of Michigan Library
Downes, Robin	University of Houston Libraries
Drake, Miriam	Georgia Inst. of Technology
Euster, Joanne R.	Rutgers University Library
Ferguson, Earl	University of Manitoba Libraries
Flecker, Dale	Harvard University Library
Freeman, Peter	University of Alberta Library
Fretwell, Gordon	University of Massachusetts Libraries
Forth, Stuart	Pennsylvania State University Libraries
Gapen, D. Kaye	University of Wisconsin Libraries
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Gorman, Michael	University of Illinois Library
Gotwals, Joan I.	University of Pennsylvania Libraries
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Haith, Dorothy	Howard University Library
Hanson, Roger K.	University of Utah Libraries
Hendrickson, Kent	University of Nebraska-Lincoln
Hoadley, Irene B.	Texas A&M University Library
Hogan, Sharon	Louisiana State University Library

Horrell, Jeffrey	Syracuse University Libraries
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Howard, Joseph H.	National Agricultural Library
Hunt, Donald	University of Tennessee Libraries
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Karklins, Vija	Smithsonian Institution Libraries
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Lee, Sul H.	University Oklahoma Library
Leinbach, Philip	Tulane University Library
Littleton, I.T.	North Carolina State Univeristy Library
Lucker, Jay K.	Massachusetts Inst. of Technology Libraries
Martin, Susan K.	Johns Hopkins University Library
Martin, Louis E.	Cornell University Libraries
McAninch, Sandra	University of Kentucky Libraries
McGowan, John	Northwestern University Libraries
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Sherrow, Marilyn	University of California, Davis Library
Shaughnessy, Thomas	University of Missouri Library
Shipman, George W.	University of Oregon Library
Simpson, Donald B.	Center for Research Libraries

Sloan, Elaine	Indiana University Libraries
Smith, Eldred F.	University of Minnesota Libraries
Smith, Elmer	CISTI
Smith, John B.	State University of New York at Stony Brook Library
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Stevens, Norman	University of Connecticut Library
Stubbs, Kendon	University of Virginia Library
Studer, William J.	Ohio State University Libraries
Taylor, Merrily	Brown University Library
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Toombs, Kenneth E.	University of South Carolina Libraries
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Weber, David C.	Stanford University Libraries
Welsh, William J.	Library of Congress
Wiens, Paul	University of Saskatchewan Libraries
Woodsworth, Anne	University of Pittsburgh Libraries
Yavarkovsky, Jerome	New York State Library

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Duane E. Webster	Deputy Executive Director and Director, Office of Management Studies
Jaia Barrett	Program Officer
Nicola Daval	Program Officer
Jeffrey J. Gardner	Associate Director, Office of Management Studies
Jeffrey Heynen	Program Office
Susan Jurow	Training Specialist, Office of Management Studies
Alex Lichtenstein	Administrative Assisant
Jutta Reed-Scott	Collections Development Speicalist, Office of Management Studies, and ARL Recon Project Coordinator
Maxine K. Sitts	Information Studies Speicalist, Office of Management Studies

GUESTS

Brown, Rowland	OCLC
Cline, Nancy	Pennsylvania State University
Galvin, Thomas	American Library Association
Haas, Warren	Council on Library Resources
Heanue, Anne	American Library Association
Loup, Jean	University of Michigan
Merrill-Oldham, Jan	University of Connecticut
Segal, JoAn	American Library Association
Sittig, William	Library of Congress
Sparks, Peter	Library of Congress
Timlake, William	The Research Libraries Group
Winterble, Peter	Council on Library Resources

APPENDIX I

ASSOCIATION OF RESEARCH LIBRARIES
OFFICERS, BOARD OF DIRECTORS, COMMITTEES AND TASK FORCES

APRIL 1987

ARL OFFICERS AND BOARD FOR 1986-87

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Elaine F. Sloan, Vice President & President-Elect
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Peter Freeman	(Oct. 1986-Oct. 1989)
Charles E. Miller	(Oct. 1985-Oct. 1988)
Margaret Otto	(Oct. 1984-Oct. 1987)
Joseph Rosenthal	(Oct. 1984-Oct. 1987)
Martin D. Runkle	(Oct. 1985-Oct. 1988)
Merrily Taylor	(Oct. 1986-Oct. 1989)

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Committee on Government Policies

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Charles Churchwell (1986-87)
Joseph Rosenthal (1987-89)
Merrily Taylor (1986-87)
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Staff: Jaia Barrett

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Charles Miller (1987)
Elaine F. Sloan, ARL Vice President, Chair (1987)

Committee on the Management of Research Library Resources

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Philip E. Leinbach (1986-88)
Jay K. Lucker (1985-87)
Carlton C. Rochell (1986-88)
Maureen Pastine (1987-89)
Thomas W. Shaughnessy (ex officio as Chair of Committee on ARL Statistics)
Peter Spyers-Duran (1987-89)
Sul H. Lee (1987-89), Chair (1987-88))

Staff: Duane Webster

Committee on ARL Statistics

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Richard M. Dougherty (1985-87)
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Robert Lee (1986-88)
Kendon Stubbs, University of Virginia (Consultant)
Don Tolliver (1986-88)
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Staff: Nicola Daval

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Henriette Avram, Library of Congress Liaison
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Dorothy Gregor (1987-89)
Sharon Hogan (1985-87)
Marianne Scott (1986-88)
David Bishop (1986-88), Chair (1987-88)

Staff: Jeffrey Heynen
Jutta Reed-Scott

Committee on Collection Development

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Joseph Boisé (1987-89)
Susan Coté (1986-88)
Kent Hendrickson (1987-89)
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Mary Jane Starr, National Library of Canada Liaison
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Carole Moore (1987-89)
John P. McGowan (1987-89)
Deanna Marcum, Council on Library Resources (observer)
Jan Merrill-Oldham (Consultant)
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David C. Weber

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Nicole Duval

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Linda Hamilton, Research Publications, Inc.
Roger Hanson, RLAC
Mary Ellen Jacob, OCLC, Inc.
Martin Joachim, ALA/RLMS
Patricia McClung, RLG alternate
Anita Werling, University Microfilms, Inc.
Research Libraries Group *
Library of Congress *

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* Representative to be appointed

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Leslie Hume, Research Libraries Group
Paul Mosher, Stanford University
Susan Nutter, Massachusetts Institute of Technology
Elaine F. Sloan
David H. Stam

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NISO Standards Voting Representative . . . . . Shirley Echelman
CONSER Advisory Group . . . . . Susan Brynteson
Eighteenth-Century Short Title Catalogue . . . . . Ray Frantz
LC Cataloging-in-Publication Advisory Group . . . . . George Gibbs, UCLA
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RLG Conspectus Development Task Force . . . . . David Farrell, Indiana
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Advisory Committee to the Library/Book Fellows program . . . . . Richard Dougherty

APPENDIX J

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Charles B. Osburn, Director
(205) 348-7561

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Edmonton, Alberta, Canada T6G 2J8
Peter Freeman, Librarian
(403) 432-3790

University of Arizona Library
Tucson, Arizona 85721
W. David Laird, Librarian
(602) 621-2101

Arizona State University Library
Tempe, Arizona 85281
Donald Riggs, Librarian
(602) 965-3417

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Copley Square
Boston, Massachusetts 02117
Arthur Curley, Librarian
(617) 536-5400

Boston University Library
Boston, Massachusetts 02215
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324 Lee Library
Provo, Utah 84602
Sterling J. Albrecht, Univ. Libn.
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Douglas McInnes, Librarian
(604) 228-2298

Brown University Library
Providence, Rhode Island 02912
Merrily Taylor, Librarian
(401) 863-2162

University of California Library, Berkeley
Berkeley, California 94720
Joseph Rosenthal, Univ. Librarian
(415) 642-3773

University of California Library, Davis
Davis, California 95616
Marilyn Sharrow, Univ. Librarian
(916) 752-2110

University of California, Irvine
The University Library
P.O. Box 19557
Irvine, California 92713
Calvin J. Boyer, University Librarian
(714) 856-5212

University of California Library, Los Angeles
Los Angeles, California 90024
Russell Shank, Librarian
(213) 825-1201

University of California Library, Riverside
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Riverside, California 92517
James Thompson, Univ. Librarian
(714) 787-3221

University of California, San Diego
The University Library
La Jolla, California 92037
Dorothy Gregor, Univ. Librarian
(619) 534-3061

University of California, Santa Barbara
The University Library
Santa Barbara, California 93106
Joseph A. Boissé, Librarian
(805) 961-3256

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& Technical Information
National Research Council of Canada
Ottawa, Canada K1A 0S2
Elmer V. Smith, Director
(613) 993-2341

Case Western Reserve University Libraries
Cleveland, Ohio 44106
Susan Coté, Director
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Chicago, Illinois 60637
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Cincinnati, Ohio 45221
Eleanor Heishman, Interim
University Librarian
(513) 475-2218

University of Colorado Library
Boulder, Colorado 80309
Clyde Walton, Director
(303) 492-7511

Colorado State University Library
Fort Collins, Colorado 80521
Joan Chambers, Director
(303) 491-5911

Columbia University Libraries
New York, New York 10027
Patricia Battin, Vice President
& University Librarian
(212) 280-2247

University of Connecticut Library
Storrs, Connecticut 06268
Norman D. Stevens, Director
(203) 486-2219

Cornell University Libraries
Ithaca, New York 14850
Alain Seznec, Univ. Libn.
(607) 255-3689

Dartmouth College Libraries
Hanover, New Hampshire 03755
Margaret A. Otto, Librarian
(603) 646-2235

University of Delaware Library
Newark, Delaware 19717-5267
Susan Brynteson, Director
(302) 451-2331

Duke University Libraries
Durham, North Carolina 27706
Jerry Campbell, Univ. Libn.
(919) 684-2034

Emory University Library
Atlanta, Georgia 30322
Herbert F. Johnson, Director
(404) 727-6861

University of Florida Libraries
Gainesville, Florida 32603
Dale Canelas, Director
(904) 392-0342

Florida State University Library
Tallahassee, Florida 32306
Charles E. Miller, Director
(904) 644-5211

Georgetown University Library
Washington, D.C. 20007
Joseph E. Jeffs, Director
(202) 625-4095

University of Georgia Libraries
Athens, Georgia 30601
David Bishop, Director
(404) 542-2716

Georgia Institute of Technology
Price Gilbert Memorial Library
Atlanta, Georgia 30332
Miriam Drake, Director
(404) 894-4510

University of Guelph Library
Guelph, Ontario, Canada N1G 2W1
John Black, Chief Librarian
(519) 824-4120

Harvard University Library
Wadsworth House
Cambridge, Massachusetts 02138
Sidney Verba, Director
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University of Hawaii Library
2550 The Mall
Honolulu, Hawaii 96822
John R. Haak, Director
(808) 948-7205

University of Houston Libraries
Houston, Texas 77004
Robin Downes, Director
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500 Harvard Place, N.W.
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Washington, D.C. 20059
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1408 West Gregory Drive
Urbana, Illinois 61801
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Bloomington, Indiana 47405
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University of Iowa Libraries
Iowa City, Iowa 52242
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Johns Hopkins University Library
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(913) 864-3601

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Lexington, Kentucky 40506
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(606) 257-3801

Kent State University Libraries
Room 300
Kent, Ohio 44242
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(216) 672-2962

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Cité Universitaire
Québec, Canada G1K 7P4
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(418) 656-2008

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Kansas City, Missouri 64110
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Baton Rouge, Louisiana 70803
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Hamilton, Ontario, Canada L8S 4L6
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National Agricultural Library
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National Library of Canada
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Ottawa, Ont., Canada K1A 0N4
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Bethesda, Maryland 20894
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The Newberry Library
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General Library
Albuquerque, New Mexico 87131
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New York Public Library
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New York, New York 10018
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New York State Library
Cultural Education Center
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Albany, New York 12234
Jerome Yavarkovsky, Director
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University of Oklahoma Library
Norman, Oklahoma 73069
Sul H. Lee, Dean, University Libs.
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Oklahoma State University Library
Stillwater, Oklahoma 74078
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Eugene, Oregon 97403-1299
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for Libraries
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Princeton University Library
Princeton, New Jersey 08540
Donald Koepp, University Librarian
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Purdue University Library
Lafayette, Indiana 47907
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Kingston, Canada K7L 3C4
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Rice University Library
6100 S. Main, Box 1892
Houston, Texas 77251-1892
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James F. Wyatt, Director
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New Brunswick, New Jersey 08903
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Paul Wiens, University Libn.
and Director of Libraries
(306) 966-5927

Smithsonian Institution Libraries
Constitution Avenue at 10th St., N.W.
Washington, D.C. 20560
Vija Karklins, Acting Director
(202) 357-2240

University of South Carolina Libraries
Columbia, South Carolina 29208
Kenneth E. Toombs, Director of Libs.
(803) 777-3142

University of Southern California Library
Los Angeles, California 90089-0182
Charles R. Ritterson, Librarian
(213) 743-2543

Southern Illinois University Library
Carbondale, Illinois 62901
Kenneth G. Peterson, Dean of
Library Affairs
(618) 453-2522

Stanford University Libraries
Green Library
Stanford, California 94305
David C. Weber, Director
(415) 723-2015

State University of New York at Albany
Libraries
1400 Washington Avenue
Albany, New York 12222
Joseph Z. Nitecki, Director
(518) 442-3540

State University of New York at Buffalo
Libraries
433 Capen Hall
Buffalo, New York 14260
Barbara von Wahlde, Director
(716) 636-2867

State University of New York at Stony Brook
Libraries
Stony Brook, New York 11794
John D. Smith, Director & Dean of Lib.
(516) 632-7100

Syracuse University Libraries
Syracuse, New York 13244-2010
David H. Stam, University Librarian
(315) 423-2574

Temple University Library
Paley Library
Philadelphia, Pennsylvania 19122
James Myers, Director
(215) 787-8231

University of Tennessee Libraries
Knoxville, Tennessee 37996-1000
Donald R. Hunt, Director
(615) 974-4127

University of Texas Libraries
Austin, Texas 78713-7330
Harold W. Billings, Director
(512) 471-3811

Texas A&M University Library
Sterling C. Evans Library
College Station, Texas 77843
Irene B. Hoadley, Director
(409) 845-8111

University of Toronto Libraries
Toronto, Ont., Canada M5S 1A5
Carole Moore, Chief Librarian
(416) 978-2292

Tulane University Library
New Orleans, Louisiana 70118
Philip E. Leinbach, Librarian
(504) 865-5131

University of Utah Libraries
Salt Lake City, Utah 84112
Roger K. Hanson, Director
(801) 581-8558

Vanderbilt University Library
419 21st Avenue South
Nashville, Tennessee 37203
Malcolm Getz, Assoc. Provost
for Infor. Services
(615) 322-7100

Virginia Polytechnic Inst. and State Univ.
Blacksburg, Virginia 24061
Paul Gherman, Director of Librs.
(703) 961-5593

University of Virginia
Alderman Library
Charlottesville, Virginia 22901
Ray Frantz, Jr., Librarian
(804) 924-3026 or 7849

University of Washington Library
Seattle, Washington 98194-5610
Merle N. Boylan, Director
(206) 543-1760

Washington State University Library
Pullman, Washington 99163
Maureen Pastine, Director
of Libraries
(509) 335-4557

Washington University Libraries
St. Louis, Missouri 63130
Bernard Reams
Acting Director of Libraries
(314) 889-5400

University of Waterloo
Waterloo, Ontario, Canada N2L 3G1
Murray C. Shepherd, Univ. Libn.
(519) 885-1211)

Wayne State University Libraries
Detroit, Michigan 48202
Peter Spyers-Duran, Director
(313) 577-4020

University of Western Ontario
DB Weldon Library
London, Ontario, Canada M6A 3K7
Robert Lee, Director of Libs.
(519) 661-3165

University of Wisconsin Libraries
728 State Street
Madison, Wisconsin 53706
D. Kaye Gapen, Director
(608) 262-2600

Yale University Libraries
New Haven, Connecticut 06520
Millicent D. Abell, Librarian
(203) 432-1818

York University Libraries
4700 Keele Street
Downsview, Ontario, Canada M3J 1P3
Ellen Hoffmann, Director
(416) 667-2235

APPENDIX K

ASSOCIATION OF RESEARCH LIBRARIES

REPORT ON FINANCIAL STATEMENTS

(with supplementary information)
(Modified Cash Basis)

YEARS ENDED DECEMBER 31, 1986 AND 1985

CANTO, METRO, MEYER & COMPANY • BUILDING 3, SUITE 100 • 5161 RIVER ROAD • BETHESDA, MARYLAND 20816 • (301) 656-3000

ASSOCIATION OF RESEARCH LIBRARIES
YEARS ENDED DECEMBER 31, 1986 AND 1985

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CMM

A PROFESSIONAL CORPORATION
CERTIFIED PUBLIC ACCOUNTANTS

Board of Directors
Association of Research Libraries
Washington, D.C.

We have examined the statement of assets and liabilities arising from cash transactions of Association of Research Libraries as of December 31, 1986, and the related statement of revenue collected and expenses paid for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

As described in note 1, the Association of Research Libraries' policy is to prepare its financial statements on the basis of cash receipts and disbursements; consequently, certain revenue and the related assets are recognized when received rather than when earned, and certain expenses are recognized when paid rather than when the obligation is incurred. Accordingly, the accompanying financial statements are not intended to present financial position and results of operations in conformity with generally accepted accounting principles.

In our opinion, the financial statements referred to above present fairly the assets and liabilities arising from the cash transactions of Association of Research Libraries as of December 31, 1986, and the revenue collected and expenses paid during the year then ended, on the basis of accounting described in note 1, which has been applied in a manner consistent with that of the preceding year.

Canto, Metro, Meyer & Co.

CANTO, METRO, MEYER & COMPANY
A Professional Corporation
Certified Public Accountants

March 5, 1987

CANTO, METRO, MEYER & COMPANY • BUILDING 3, SUITE 100 • 5161 RIVER ROAD • BETHESDA, MARYLAND 20816 • (301) 656-3000

ASSOCIATION OF RESEARCH LIBRARIES
STATEMENTS OF ASSETS, LIABILITIES AND FUND BALANCE
(MODIFIED CASH BASIS)

A S S E T S

	GENERAL OPERATING FUND	OFFICE OF MANAGEMENT STUDIES	YEAR ENDED DECEMBER 31, 1986	1985
Cash	$ 20,335		$ 20,335	$ (40,715)
Investments, short-term at cost (Market value $544,535 (notes 2 & 3)	421,967	$ 130,894	552,861	493,962
Accounts receivable	34,664	12,148	46,812	27,232
Prepaid expenses	2,177		2,177	--
Deposits	2,392		2,392	2,144
Furniture & equipment	89,690	43,871	133,561	109,223
Less: accumulated depreciation	(49,968)	(27,307)	(77,275)	(59,671)
Total	$ 521,257	$ 159,606	$ 680,863	$ 532,175

LIABILITIES AND FUND BALANCES

Unapplied grant income (schedule)	$ 304,000	$ 111,676	$ 415,676	$ 240,938
Obligation under capital lease (note 4)	2,309	2,310	4,619	6,184
Accounts payable	12,021		12,021	9,594
Payroll taxes withheld	10,591		10,591	3,229
Total liabilities	328,921	113,986	442,907	259,945
Fund balances	192,336	45,620	237,956	272,230
Total	$ 521,257	$ 159,606	$ 680,863	$ 532,175

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND
STATEMENTS OF REVENUE COLLECTED AND
EXPENSES PAID AND CHANGES IN FUND BALANCE
(MODIFIED CASH BASIS)

	BUDGET 1986	YEAR ENDED DECEMBER 31, 1986	1985
REVENUE			
Dues	$ 647,820	$ 647,820	$ 620,680
Interest	40,000	22,750	64,317
Publications	26,000	19,925	19,746
Miscellaneous	—	—	2,097
Cost recovery	—	3,188	1,545
	713,820	693,683	708,385
EXPENSES	738,820	746,536	687,888
Less: administrative expenses charged to special programs	(25,000)	(9,184)	(12,703)
Net expenses	713,820	737,352	675,185
Excess (deficiency) of revenue collected over expenses paid	$ --	(43,669)	33,200
Fund balance, beginning of year		230,017	220,525
Adjustments to fund balance			
Balance in special programs - current year		4,361	(16,541)
- prior year		1,627	(7,167)
Fund balance, end of year		$ 192,336	$ 230,017

The accompanying letter and notes are an integral part of these financial statements.

ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
STATEMENTS OF REVENUES COLLECTED AND
EXPENSES PAID AND CHANGES IN FUND BALANCE
(MODIFIED CASH BASIS)

	BUSINESS PLAN 1986	YEAR ENDED DECEMBER 31, 1986	1985
REVENUE			
Cost recovery	$ 20,877	$ 29,502	$ 26,670
Sales of publications	91,500	150,431	114,698
ARL support - transferred from general operating fund	119,800	119,800	115,500
Management institutes/training	93,685	134,680	135,081
Consultation	30,000	30,263	30,190
Interest income	22,000	6,382	9,000
Total revenue	377,862	471,058	431,139
EXPENSES	377,862	445,395	421,321
Excess (deficiency) of revenues collected over expenses paid	--	25,663	9,818
Balance - special programs	--	(22,256)	(7,162)
Fund balance, beginning of year	--	42,213	41,139
Adjustments	--	--	(1,582)
Fund balance, end of year	$ --	$ 45,620	$ 42,213

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
CHINESE CENTER REVOLVING FUND
STATEMENTS OF REVENUES COLLECTED AND EXPENSES PAID
AND CHANGES IN FUND BALANCE
(MODIFIED CASH BASIS)

	NINE MONTHS ENDED SEPTEMBER 30, 1986	TWELVE MONTHS ENDED DECEMBER 31, 1985
REVENUE		
Interest income	$ 4,045	$ 22,065
Sales of publications	68,644	102,104
	72,689	124,169
EXPENSES	161,323	224,415
Balance	(88,634)	(100,246)
Fund balance, beginning of year	125,272	225,518
Fund balance, August 31, 1986	$ 36,638*	$ 125,272

* The fund balance, which represents the net asset value of cash and equipment, was subsequently turned over to CCRM.

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
STATEMENTS OF CHANGES IN CASH
(MODIFIED CASH BASIS)

	YEAR ENDED DECEMBER 31, 1986	1985
SOURCES OF CASH		
Excess (deficiency) of revenue collected over expenses paid		
General operating fund	$ (43,669)	$ 33,200
Office of management studies	25,663	9,818
Chinese Center revolving fund	(88,634)	(100,246)
Special programs - ARL	4,361	(23,708)
- OMS	(22,256)	(8,744)
Total	(124,535)	(89,680)
Add item not requiring the outlay of cash - depreciation	19,795	17,439
Cash provided by operations	(104,740)	(72,241)
Dues collected in advance	--	(5,010)
Grant payable	--	(15,625)
Increase in deposits	(249)	(157)
Increase in payroll taxes withheld	7,362	187
Increase in accounts payable	2,427	9,594
Total	(95,200)	(83,252)
USES OF CASH		
Prepaid expenses	2,177	(5,586)
Funding of accounts receivable	18,080	11,216
Reduction in lease obligation	3,627	3,026
Increase in unapplied grant income	(174,738)	(140,016)
Purchase of equipment	24,339	11,939
Payout CCRM Reserve	29,450	--
Total	(97,065)	(119,421)
Increase (decrease) in cash	1,865	36,169
Cash, beginning of year	571,331	535,162
Cash, end of year	$ 573,196	$ 571,331

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Organization

The Association of Research Libraries is a non-profit education organization comprised of 118 of the major research libraries in the United States and Canada. The purpose of the Association is to initiate and develop plans for strengthening research library resources and services in support of higher education and research. As part of its activities, the Association also operates the Office of Management Studies and operated the Center for Chinese Research Materials.

The Center for Chinese Research Materials was established by the Association in 1968. The Center served primarily as a reprint publishing house which reproduced periodicals, documents, and research tools focusing on twentieth-century China. The Center ceased operating within ARL in September, 1986.

The Office of Management Studies was established by the Association in 1970. The Office conducts research into organizational problems of research libraries, develops new management techniques, and offers information services and training.

Basis of accounting

The Association's policy is to prepare its financial statements on a modified cash basis. This includes recording depreciation and amortization on capitalized assets, accruing liabilities related to special programs and payroll withholding taxes. Under this basis, revenues are recognized when collected rather than when earned and expenditures are generally recognized when paid rather than when incurred.

Furniture, equipment and depreciation

Furniture and equipment are recorded at cost. Depreciation of furniture and equipment is provided on the straight-line method over the estimated useful lives of the assets.

Depreciation, a noncash item, has not been accurately budgeted in the budgets of ARL or OMS.

It should be noted that there is no generally accepted accounting principal dealing with depreciation for non-profit organizations. The theory is often advanced that, with inflation, the value of fixed assets often increases as fast, or faster, than with deterioration through passage of time, which the depreciation is assumed to measure.

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Income taxes

The Association is exempted from income taxes under Internal Revenue Code Section 501(c)(3) and applicable District of Columbia law.

Retirement plan

The Association has a retirement plan that covers substantially all full-time employees. Contributions to the plan are based on a percentage of salary for enrolled staff members. Total amounts paid in by the Association were $87,452 and $86,644 for 1986 and 1985, respectively.

NOTE 2 - CASH

The Board of Directors has authorized restriction of $14,000 of the Association's funds and designated this amount as a program reserve fund.

NOTE 3 - INVESTMENTS

The Association's investments are managed by Dean Witter Reynolds, Washington, D.C. The investments are held as follows:

Dean Witter/Sears Liquid Asset Fund, Inc.	$ 3,219	- Current yield 5.5%
Dean Witter U.S. Government Securities Trust	541,316	- Current yield 9.10%
Market Value	$ 544,535	

All accounts may be liquidated on any business day with proceeds payable within two to five business days.

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NOTE 4 - LEASES

The Association leases its office space under an operating lease that expires on December 31, 1988, and leases telephone equipment under a capital lease that expires on February 15, 1988.

Furniture and equipment includes leased property under a capital lease at December 31, 1986 as follows:

Cost	$ 16,455
Less: accumulated amortization	5,894
	$ 10,561

The future minimum lease payments as of December 31, 1986 are as follows:

	Capital Lease	Operating Lease
1987	$ 4,358	$ 84,464
1988	614	88,710
Total minimum lease payments	$ 4,972	$ 173,174
Less: amount representing interest	320	
Present value of net minimum lease payments	$ 4,652	

Total rent and storage charges for the operating lease were $86,802 for 1986 and $75,536 for 1985.

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SUPPLEMENTARY INFORMATION

Our examinations of the financial statements included in the preceding section of this report were directed to an expression of our opinion on those financial statements taken as a whole. The supplementary information included on pages 11 through 19 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the examination of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

Canto, Metro, Meyer & Co.

CANTO, METRO, MEYER & COMPANY
A Professional Corporation
Certified Public Accountants

March 17, 1987

ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND
SCHEDULES OF EXPENSES
(MODIFIED CASH BASIS)

	BUDGET 1986	YEAR ENDED DECEMBER 31, 1986	1985
Staff expenses			
Salaries	$ 283,165	$ 294,274	$ 267,453
Benefits	88,300	68,969	60,435
Part-time help	600	--	--
Professional development	500	500	--
Total staff	372,565	363,743	327,888
Administrative expenses			
Travel	15,000	18,129	17,750
ARL sponsored travel	2,000	1,363	2,376
Prof. services	30,000	27,943	29,437
Data processing	3,700	1,397	6,499
Insurance	8,500	11,987	7,873
Interest	450	310	500
Rent	31,500	39,685	31,368
Telephone	10,800	7,328	11,441
Postage/comm.	8,000	10,174	8,083
Messenger service	2,000	2,569	2,400
Office supplies	8,000	9,828	7,500
Printing & duplication	5,800	7,109	6,783
Equipment rental/maintenance	14,000	12,368	13,350
Books & subscriptions	2,400	2,622	3,065
Corporation memberships	8,500	8,386	7,491
Furniture & equipment/depreciation	1,500	12,135	9,190
Miscellaneous	800	3,298	2,389
Total administrative	152,950	176,631	167,495
Services			
Publication	25,000	28,672	13,459
OMS support	119,800	119,800	115,500
Support to projects	6,505	6,505	--
Total services	151,305	154,977	128,959
Meeting expense			
Board meetings	8,500	10,959	6,407
Executive committee	5,000	2,512	4,854
Staff travel	6,500	8,640	6,790
Committee & task force	15,000	19,991	18,196
Other conference related	27,000	9,083	27,299
Total meetings	62,000	51,185	63,546
Total expenses	$ 738,820	$ 746,536	$ 687,888

The accompanying letter and notes are an integral part of these financial statements.

CANTO, METRO, MEYER & COMPANY • BUILDING 3, SUITE 100 • 5161 RIVER ROAD • BETHESDA, MARYLAND 20816 • (301) 656-3000

ASSOCIATION OF RESEARCH LIBRARIES
GENERAL OPERATING FUND
SCHEDULES OF EXPENSES BY FUNCTION

	YEAR ENDED DECEMBER 31, 1986	1985
Management and general (includes transfers to OMS)	$ 573,420	$ 542,985
Board and executive committee	30,312	13,774
Information/publication	8,466	6,702
Member meetings	36,969	55,786
Scholarly communication	--	3,438
Access	--	2,383
NCIP- Access	--	1,647
Preservation committee	11,338	15,662
Information policy	35,986	14,605
Staff development	--	1,015
Management improvement	12,301	712
Salary survey	3,308	3,582
Bibliographic control committee	10,683	9,459
Statistical committee	16,188	8,109
Statistics	5,193	8,029
Microform - Bibliographic Mellon	2,372	--
Total expenses	$ 746,536	$ 687,888

The accompanying letter and notes are an integral part of these financial statements.

CANTO, METRO, MEYER & COMPANY • BUILDING 3, SUITE 100 • 5161 RIVER ROAD • BETHESDA, MARYLAND 20816 • (301) 656-3000

ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
SCHEDULES OF EXPENSES
(MODIFIED CASH BASIS)

	BUSINESS PLAN 1986	YEAR ENDED DECEMBER 31, 1986	1985
Equipment, rent & maintenance	$ 5,000	$ 9,873	(1)$ --
Consulting, computer & subcontractors	8,000	20,502	20,882
Depreciation	--	1,809	4,931
Employee benefits	74,616	33,872	47,161
Miscellaneous	400	764	1,679
Office expense/supplies	7,800	3,815	15,183
Periodicals and subscriptions	3,000	5,920	3,583
Communications	12,500	23,047	16,691
Printing	45,000	53,941	48,184
Rent and storage	30,000	32,177	25,401
Salaries	131,996	144,777	154,735
Refunds	3,000	1,828	8,393
Telephone	9,800	13,672	8,790
Training	--	--	18,287
Travel	35,000	87,120	47,421
Professional development	250	689	--
Workshop materials	8,500	8,642	--
Exhibit	3,000	2,947	--
Total expenses	$ 377,862	$ 445,395	$ 421,321

(1) Included in office expense/supplies category.

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
SCHEDULES OF EXPENSES BY FUNCTION

	YEAR ENDED DECEMBER 31, 1986	1985
Research and development	$ 11,455	$ 13,990
Academic library program	47,122	52,236
SPEC	103,272	87,399
Training - MSI	172,180	144,193
Grants management	111,366	123,503
Total	$ 445,395	$ 421,321

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
CHINESE CENTER REVOLVING FUND
SCHEDULES OF EXPENSES
(MODIFIED CASH BASIS)

	NINE MONTHS ENDED SEPTEMBER 30, 1986	YEAR ENDED DECEMBER 31, 1985
Allocated administrative charges	$ 9,184	$ 12,703
Consulting, computer and subcontractors	2,477	6,799
Depreciation	2,189	3,319
Employee benefits	20,496	29,984
Miscellaneous	--	930
Supplies	332	1,137
Refunds	--	956
Periodicals and subscriptions	397	102
Communications	3,133	4,989
Printing and duplication	25,067	43,556
Interest	145	240
Professional services	480	489
Rent and storage	13,440	17,568
Salaries	77,772	93,650
Telephone	990	1,043
Travel	5,221	6,950
Total	$ 161,323	$ 224,415

The accompanying letter and notes are an integral part of these financial statements.

CANTO, METRO, MEYER & COMPANY • BUILDING 3, SUITE 100 • 5161 RIVER ROAD • BETHESDA, MARYLAND 20816 • (301) 656-3000

ASSOCIATION OF RESEARCH LIBRARIES
SPECIAL PROGRAMS
SCHEDULES OF OPERATIONS
(WITH COMPARATIVE TOTALS FOR 1985)
(MODIFIED CASH BASIS)

	CONSER A&I	Z39	PRESERVATION MICROFILMING GUIDE	RECON. MEMBERSHIP ASSESSMENT	NRMM	YEAR ENDED DECEMBER 31, 1986	1985
REVENUES							
Grants	$ 15,021	$ 11,199	$ 3,031	$ 59,000	$ —	$ 88,251	$ 171,174
Interest	—	—	—	—	13,050	13,050	—
Total revenues	15,021	11,199	3,031	59,000	13,050	101,301	171,174
EXPENSES							
Consulting, computer and subcontractors	314	—	5,297	432	—	6,043	29,191
Depreciation	—	—	—	—	—	—	44
Employee benefits	4,145	1,829	678	7,693	2,519	16,864	27,230
Miscellaneous	—	—	—	—	—	—	239
Office expense/supplies	170	—	—	111	—	281	594
Communications	450	—	—	289	—	739	875
Printing & duplication	—	—	—	217	—	217	1,267
Rent & storage	—	—	—	750	—	750	750
Salaries	17,434	9,370	2,894	33,985	10,729	74,412	122,952
Telephone	—	—	—	701	—	701	1,250
Travel	1,177	—	—	2,261	—	3,438	3,323
Support from ARL	(6,505)	—	—	—	—	(6,505)	—
Total expenses	17,185	11,199	8,869	46,439	13,248	96,940	187,715
BALANCE	$ (2,164)*	$ —	$ (5,838)*	$ 12,561	$ (198)	$ 4,361	$ (16,541)

* Represents inkind contributions made by ARL.

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
SPECIAL PROGRAMS
SCHEDULES OF OPERATIONS
(WITH COMPARATIVE TOTALS FOR 1985)
(MODIFIED CASH BASIS)

	INSTITUTE OF LIBRARY SCHOOL EDUCATORS	PRESERVATION PLANNING (NEH GRANT)	NATIONAL COLLECTION INVENTORY III	YEAR ENDED DECEMBER 31, 1986	1985
REVENUES					
Grants	$ 38,691	$ 14,079	$ 81,750	$ 134,520	$ 128,743
Interest	--	--	7,282	7,282	13,633
Total revenue	38,691	14,079	89,032	141,802	142,376
EXPENSES					
Consulting, computer and subcontractors	4,000	6,165	4,350	14,515	4,027
Employee benefits	3,791	2,400	11,448	17,639	18,523
Miscellaneous	--	--	--	--	1,045
Office expense, supplies	130	820	8,040	8,990	1,883
Periodicals & subscriptions	--	25	105	130	1,676
Communications	502	126	119	747	2,143
Printing & duplication	1,357	4,897	1,560	7,814	13,920
Rent & storage	--	--	750	750	450
Salaries	16,253	10,335	49,326	75,914	58,755
Stipend	--	--	--	--	7,500
Telephone	448	485	1,922	2,855	2,915
Travel	12,210	6,741	5,583	24,534	36,701
Workshop materials	--	10,170	--	10,170	--
Total expenses	38,691	42,164	83,203	164,058	149,538
BALANCE	$ --	$ (28,085)*	$ 5,829	$ (22,256)	$ (7,162)

* Represents an inkind contribution from OMS.

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
STATEMENTS OF CHANGES IN UNAPPLIED GRANT INCOME
FOR THE YEAR ENDED DECEMBER 31, 1986
(WITH COMPARATIVE TOTALS FOR 1985)
(MODIFIED CASH BASIS)

	NEH	CONSER A&I	RECON PLANNING STUDY (CLR)	PRESERVATION MICROFILMING GUIDE	PROGRAM RESERVE FUND	MICROFILM BIBLIOGRAPHIC (MELLON GRANT)	YEAR ENDED DECEMBER 31, 1986	1985
Unapplied balance, beginning of year	$ —	$ 4,638	$ 177	$ 3,031	$ 14,000	$ 2,094	$ 23,940	$ 62,374
Write-off to fund balance	—	—	(177)	—	—	(1,450)	(1,627)	7,167
Current year's receipts	290,000	10,383	—	—	—	—	300,383	94,420
Applied: To revenues	—	(15,021)	—	(3,031)	—	(644)	(18,696)	(140,021)
Unapplied balance, end of year	$ 290,000	$ —	$ —	$ —	$ 14,000	$ —	$ 304,000	$ 23,940

The accompanying letter and notes are an integral part of these financial statements.

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ASSOCIATION OF RESEARCH LIBRARIES
OFFICE OF MANAGEMENT STUDIES
STATEMENTS OF CHANGES IN UNAPPLIED GRANT INCOME
FOR THE YEAR ENDED DECEMBER 31, 1986
(WITH COMPARATIVE TOTALS FOR 1985)
(MODIFIED CASH BASIS)

	NATIONAL COLLECTION INVENTORY III	PUBLIC SERVICE PROJECT (G.E. GRANT)	NATIONAL COLLECTION INVENTORY I & II	INSTITUTE OF LIBRARY SCHOOL EDUCATORS	INDEX (WILSON FOUNDATION)	PRESERVATION PLANNING (NEH GRANT)	YEAR ENDED DECEMBER 31, 1986	1985
Unapplied balance, beginning of year	$ 193,426	$ 8,133	$ 288	$ 12,834	$ 2,175	$ 142	$ 216,998	$ 38,549
Adjustments: Write-off of fund balance	—	—	—	—	—	—	—	1,582
Current year's receipt	—	—	—	25,857	—	13,937	39,794	298,910
Applied: To revenues	(81,750)	(8,133)	(288)	(38,691)	(2,175)	(14,079)	(145,116)	(122,043)
Unapplied balance, end of year	$ 111,676	$ —	$ —	$ —	$ —	$ —	$ 111,676	$ 216,998

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